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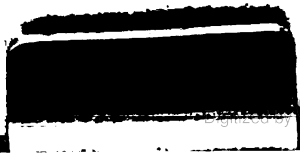
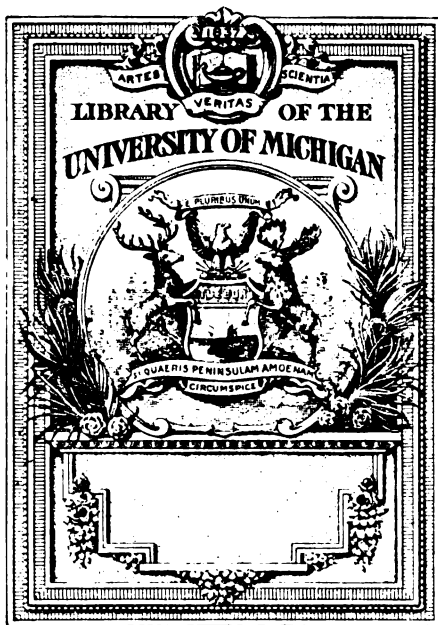
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BULLETIN NO. 41.

JANUARY, 1899

STATE OF MICHIGAN

112817

DAIRY AND FOOD COMMISSION



BY AUTHORITY

LANSING
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

OFFICE OF THE

MICHIGAN DAIRY AND FOOD COMMISSION

LANSING, MICHIGAN

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY
F. H. BORRADAILE,	-	-	-		STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

• STATE OF MICHIGAN.

DAIRY AND FOOD COMMISSION.

THE OLEOMARGARINE SITUATION.

For nearly two months the department has fought persistently to establish that the sale of oleomargarine colored in imitation of butter is a violation of sub-division 6 of section 3 of the general food statute. Only partial and unsatisfactory results have been obtained.

These conditions are due to the varying constructions put upon the law and its applicability to the sale of colored oleomargarine by the different courts before whom cases have been brought, and to the lack of proper co-operation by the prosecuting officer in some of the counties where the enforcement of this law has been attempted.

Of the twenty-three prosecutions instituted by the department for the sale of artificially colored oleomargarine under the provisions of the statute above cited, thirteen have been disposed of in the courts of examination.

In the Police Court of the city of Detroit six cases have been heard, in five of which the defendants were bound over to the Recorder's Court for trial, one case being dismissed by the court on an alleged question of law, namely, that foreign coloring added to oleomargarine through the medium of artificially colored butter was not a violation of the statute.

In the Grand Rapids Police Court seven cases came up for examination, the defendants being discharged by the acting Police Judge on, as we believe, the erroneous grounds that oleomargarine is a compound and mixture and as such may be artificially colored; and that the provisions of the statute prohibiting the sale of an article, "if it is an imitation of *or* is sold under the name of another article" should be construed to read "if it is an imitation of *and* is sold under the name of another article", ignoring the department's contention that the clause in question forms a disjunctive conjunction and not a conjunctive conjunction.

In every case the proofs offered by the department have been strong and conclusive, the attorneys for the oleomargarine manufacturing interests confining their defense to a multiplicity of complicated legal objections.

The department is advised and believes that the sale of artificially colored oleomargarine is a violation of the statute, and we are determined to push matters with all possible speed with the view of having the legal questions upon which today we find such a wide diversity of opinion submitted at an early date to our Supreme Court for final adjudication.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1898.

Cases pending July 1, 1898.....	39
Cases commenced since said date.....	34
* Cases nolle prossed	23

CASES DISPOSED OF.

Before Examining Magistrates 16 {	Defendants bound over to trial courts.....	7
	† Defendants discharged on examination....	9
In Trial Courts..... 11 {	Defendants convicted	10
	Defendants acquitted	1
In Supreme Court..... 2 {	Conviction affirmed.....	1
	Conviction set aside	1
Cases pending February 1, 1899.....		29

PROCEEDINGS HAD DURING MONTH OF JANUARY, 1899.

Complaint was made on the 11th inst. in justice court in the city of Ann Arbor against Casper Rinsey, charged with having sold artificially colored oleomargarine. Examination set for 21st prox.

Complaint was made on the 12th inst. in justice court in the city of Jackson against Frank A. Lincoln, charged with having sold artificially colored oleomargarine. Examination set for the 7th prox.

In the cases pending in the police court in the city of Detroit, in which defendants were charged with having sold artificially colored oleomargarine, the following proceedings were had: On the 10th inst., the examination in the case pending against Clarence Chrysler was held, resulting in the defendant being bound over to the recorder's court of the city of Detroit for trial. On the 10th and 24th insts. the examination in the case pending against James Downie was held, defendant being bound over to the recorder's court for trial. On the 24th inst., the cases pending against Frederick Addison, Thomas Horigan and Charles Addison came up for examination, and upon the defendants in each case waiving same, they were bound over to the recorder's court for trial. On the 24th inst., the examination in the case pending against

* 20 oleomargarine cases nolle prossed, Supreme Court having declared anti color statute invalid.
 † 8 oleomargarine cases.

Frank G. Lafer was held, defendant being discharged on an alleged question of law, the court holding that foreign coloring matter might be added to oleomargarine through the medium of artificially colored butter without violating the statute. On the 24th inst., the examination in the case pending against William H. Green was held in part, further hearing in the matter being adjourned until February 17. Examinations in the cases pending against Louis Jarvis, John Blessed, Charles Hilderschied, J. Henry Smith, William A. Moore and David Morphy have been set for February 17.

In the cases pending in the police court in the city of Grand Rapids, in which the defendants were charged with having sold artificially colored oleomargarine, the following proceedings were had: The examinations in the cases pending against Frank J. Dettenthaler and Peter Schuit were concluded on the 20th inst., defendants being discharged on alleged questions of law, the court holding that oleomargarine is a compound and mixture, and under the law may be artificially colored; that the provision of the statute prohibiting the sale of an article "if it is an imitation of *or* is sold under the name of another article" should be construed to read, "if it is an imitation of *and* is sold under the name of another article," overruling the Department's contention that the clause in question forms a disjunctive conjunction and not a conjunctive conjunction. The cases pending against William Killean, Morse Dry Goods Co., Peter Schuit, Frank J. Dettenthaler and Hilber & Goetz were also dismissed for the same reasons.

The case pending in justice court in the city of Corunna against Jarvis and Harrington, charged with having manufactured and sold adulterated buckwheat flour, came up for trial on the 12th inst. Defendants were discharged by the court on an alleged question of law, the court erroneously holding that the Department to maintain its case must prove that defendants had knowledge of the adulteration.

The case pending in justice court in the city of Mt. Clemens against Ward L. Andrus, charged with having sold adulterated olive oil, came up for examination on the 11th inst. Defendant was discharged by the court on the ground that the prosecution had failed to make out a case.

INSPECTIONS.

The following places were visited during the month of January, 1899, by the Department's inspection force:

Grand Rapids, Detroit, Mt. Clemens, Owosso, Vernon, Corunna, Lansing, Howell, Cohoctah, East Cohoctah, Perry, Bancroft, Elsie, Eureka, Ovid, Kirby, Byron, Durand, Chesaning, Henderson, Easton, St. Johns, St. Charles, Adrian, Fairfield, Jackson, Coldwater, Ann Arbor, Ypsilanti, Niles, Buchanan, Three Oaks, New Buffalo, Benton Arbor, St. Joseph.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of January, 1899:

Jackson:

Bennett Farm—Condition of cows, very clean; stable exceptionally clean; has high ceiling, cement floor, amply lighted; systematically ventilated; uses well water; sanitary conditions in general, excellent; urine conveyed through a sewer to a distance from barn; have facilities for flushing gutter; yards free from any accumulation of refuse; milk room remote from barn and kept rigorously clean; uses a separator.

John Herring—Condition of cows, part in poor condition; stables unclean; ventilation, fair; uses well water; sanitary conditions in general, poor; horses kept in connection with cow stable; milk strained in stable; sells milk to James Herring and E. A. Sager.

J. Buchfink—Condition of cows, they are not bedded; stables unclean; uses well water; sanitary conditions in general, poor; uses an aerator; manure accumulated in yard.

Geo. A. Sager—Condition of cows, fairly clean; stables, fairly clean; ventilation, fair; uses well water; sanitary conditions, poor; uses an aerator.

Rahl & Burns—Condition of cows, generally clean; stables, fairly clean; ventilation, fair; uses spring water; sanitary conditions, poor; milk strained in barn; manure accumulated near stable; sells milk to J. Ryan.

J. E. Blake—Part of cows in poor condition, generally clean; stables fairly clean; ventilation, poor; water, spring; sanitary conditions, poor; feeding beer malt; uses an aerator.

W. Perkins—Condition of cows, generally clean; stables, unsanitary; uses spring water; sanitary conditions in general, poor; horse stable in connection with cow stable; feeding beer malt.

A. Thorpe—Condition of cows, clean; stable, ceiling dusty; ventilation, fair; uses well water; sanitary conditions, poor; manure accumulated in yard.

W. D. Higdon & Son—Condition of cows, clean; stable, unsanitary; cows are over crowded; uses well water; sanitary conditions in general, poor; uses an aerator.

Chas. Pennow—Condition of cows, fairly clean; stables, unsanitary; uses well water; sanitary conditions in general, poor; feeding beer malt; milk strained in stable.

S. L. Loud—Condition of cows, clean; stable, clean; uses disinfectants in stable; drainage imperfect; ventilation, fairly good; uses well water; uses an aerator; sells milk to D. B. Webster.

Chas. W. Maghean—Condition of cows, clean; stables in poor condition; uses well water; sanitary conditions, poor; horses kept in connection with cow stables; manure accumulated near cow stable; uses an aerator.

G. W. Moulton—Condition of cows, clean; stables, fairly clean; horse stable in connection with cow stable; ventilation, fair; uses well water; sanitary conditions, poor; uses an aerator.

E. Jacka—Part of cows clean and part unclean; stables, unsanitary; uses well water; sanitary conditions in general, poor; manure accumulated in yard; horse stable in connection with cow stable.

H. A. Grover—Condition of cows, generally clean; stable, fairly clean; ventilation, good; uses well water; sanitary conditions, poor; milk strained in barn.

B. Shoemaker—Condition of cows, clean; stable, has low ceiling; ceiling dusty; ventilation, fair; uses well water; sanitary conditions, poor; milk strained in stable; sells milk to Chas. Sallsbury.

W. T. Hall—Condition of cows, clean; stable has cement floor, gutter and high ceiling; ventilation good; uses well water; horses kept in connection with cow stable.

Hall Bros.—Condition of cows, part clean, part unclean, are not bedded; stables, unclean; manure accumulated directly against stable; ventilation, fair; uses well water; sanitary conditions in general, poor.

Austin & Probert—Condition of cows, generally clean; condition of stable, fair; ventilation, fair; uses spring water; disinfectants used in stable; sells milk to T. J. Camp and Mrs. Dilsenrath.

Fred Evans & Son—Condition of cows, clean; stables, clean and in good condition; ventilation, good; water, well; sanitary conditions in general, good; uses an aerator; uses a separator.

M. B. Bradford—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; uses well water; sanitary conditions, poor; milk strained in stable; disinfectants used in stable; sells milk to T. J. Camp.

J. Lavery—Condition of cows, clean; condition of stables, poor; ventilation, fair; uses well water; uses an aerator; sells milk to Henry Phillips.

W. H. Purdy—Condition of cows, generally clean; part in poor condition; condition of stables, poor; ventilation, fair; sanitary conditions in general, poor; milk strained in stable; horse stable in connection with cow stable.

L. Haughtaling—Condition of cows, clean; stables, ceilings dusty; ventilation, fair; uses well water; uses an aerator; sells milk to H. Richmond.

W. M. Dodge—Condition of cows, clean; stables, fairly clean, have high ceilings; ventilation, good; uses well water; sells milk to H. Smith.

Greenwood Stock Farm—Condition of cows, generally clean; stables, fairly clean; ceilings dusty; ventilation, good; uses well water; uses a separator.

H. Smith—Condition of cows, generally clean, over crowded in stable; ventilation, poor; uses well water; sanitary conditions, poor.

W. Blake—Condition of cows, clean; stables, fairly clean; ventilation, fair; uses well water; sanitary conditions, poor; milk strained in barn.

Obrien & Timmons—Condition of cows, generally clean; part of them in poor condition; stables, fairly clean; ventilation, fair; uses well water; sanitary conditions, poor; manure accumulated in yard.

F. R. Nichol—Condition of cows, generally clean; stable, fairly clean; ventilation, good; uses well water; sanitary conditions in general, poor; milk room adjacent to stable; uses an aerator; manure accumulated in yard.

C. A. Elliot—Condition of cows, clean; stables, fairly clean; ventilation, fair; uses well water; sanitary conditions, poor; sells milk to R. Stephenson.

E. A. Sager—Condition of cows, extra clean; stable, clean; ventilation, fair; uses well water; sanitary conditions, fair; uses an aerator.

Hurd Dairy—Condition of cows, clean; stable, fairly clean; ventilation, fair; uses well water; sanitary conditions, poor; uses an aerator.

T. J. Camp—Condition of cows, clean; stables, fairly clean; ventilation, good; uses well water; uses a separator; milk room remote from barn and yards.

Byron Pulver—Condition of cows, clean; stables, fairly clean; ventilation, fair; uses well water.

Chas. E. Thorp—Condition of cows, clean; stable, fairly clean; ventilation, poor; uses well water; sanitary conditions, poor.

J. W. Boardman—Condition of cows, clean; stable, fairly clean; ventilation, fair; uses well water; sells milk to James Ryan.

Mrs. Dilsenroth—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; uses well water; sanitary conditions, fair; two cows in poor condition; uses an aerator; uses a separator.

Arthur Lavery—Condition of cows, clean; stables, ceiling very dusty; ventilation, fair; uses well water; sanitary conditions, poor; manure accumulated near stable; uses an aerator.

The feeding of swill, brewery slops, dry, ripe corn husks, straw and other food that has little or no substance left in it for nourishment and warmth, will eventually and surely lead to impoverished animals; milk poor in per cent of solids, and consequently high in the per cent of water, skin troubles, falling out of hair from the tail, scurvy and susceptibility to tuberculosis, and other dangerous diseases. The law prohibits the sale of milk produced from any cow fed upon the refuse of a distillery, or of a brewery, garbage, swill, or upon any substance which would depreciate the quality of the milk.

CHEMIST'S REPORT.

Lansing, Mich., January 31, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of January, 94 samples of food products have been examined, 42 being pure and 52 adulterated.

F. H. BORRADAILE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	1	1	0
Beans (canned baked).....	1	0	1
Buckwheat flour.....	17	14	3
Butter.....	13	4	9
Cream of tartar.....	6	3	3
Extracts (flavoring).....	11	5	6
Honey.....	1	0	1
Jelly.....	2	1	1
Milk.....	7	2	5
Milk (condensed).....	1	1	0
Mustard (dry).....	2	1	1
Mustard (prepared).....	1	0	1
Oleomargarine.....	24	5	19
Olive oil.....	3	3	0
Pepper.....	1	0	1
Saleratus.....	1	1	0
Soda.....	1	1	0
Vinegar.....	1	0	1
Totals.....	94	42	52

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them, and only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

3700

ANALYSIS OF SAMPLES.

BEANS (Canned Baked).

No. A-179. Sample of canned beans (brand "Tripp's Special") from James Boyle, Ann Arbor.

Sold by Berdan & Co., Toledo, Ohio.

Salicylic acid.....	None.
Evidence of fermentation.....	None.

Not properly labeled. Can does not bear name and address of packer.

BUCKWHEAT FLOUR.

No. A-170. Sample of buckwheat flour (brand "Choice") taken from original package at Ann Arbor.

Sold (1899) by Berdan & Co., Toledo, Ohio.

Producers, The Detweiler Milling Co., Toledo, Ohio.

Buckwheat starch, about.....	80.00 per cent.
Wheat starch, about.....	20.00 " "

Buckwheat flour adulterated with some product of wheat, probably wheat middlings.

No. A-178. Sample of buckwheat flour (brand "Choice") taken from original package at Ann Arbor.

Sold (1899) by Berdan & Co., Toledo, O.

Producers, The Detweiler Milling Co., Toledo, Ohio.

Buckwheat starch, about.....	80 per cent.
Wheat starch.....	20 " "

Buckwheat flour adulterated with some product of wheat, probably wheat middlings.

No. G-476. Sample of buckwheat flour (brand "Choice") from H. C. Wendorff Grand Rapids.

Sold (1899) by S. W. Brown & Son., Cannonsburg.

Producers, S. W. Brown & Son., Cannonsburg, Mich.

Buckwheat flour, about.....	75.00 per cent.
Wheat flour, about.....	25.00 " "

Adulterated with some product of wheat.

BUTTER.

No. C-349. Sample from Henry Mason, Restaurant, Grand Rapids.

Butter fat.....	3.90 per cent.
Other fats.....	96.10 " "

Oleomargarine. No signs displayed in room.

No. C-350. Sample from S. J. Cresbough, Restaurant, Grand Rapids.

Butter fat.....	5.77 per cent.
Other fats.....	94.23 " "

Oleomargarine. No signs displayed in room.

No. C-351. Sample from D. B. Monroe, Restaurant, Grand Rapids.

Butter fat.....	3.53 per cent.
Other fats.....	96.47 " "

Oleomargarine. No signs displayed in room.

No. C-352. Sample from Densmore & Neikirk, Restaurant, Grand Rapids.

Butter fat.....	2.23 per cent.
Other fats.....	97.77 " "

Oleomargarine. No signs displayed in room.

No. C-353. Sample from Delbert Stonehouse, Restaurant, Grand Rapids.

Butter fat.....	13.80 per cent.
Other fats.....	86.20 " "

Oleomargarine. No signs displayed in room.

No. C-354. Sample from B. Allen, Restaurant, Grand Rapids.

Butter fat.....	4.27 per cent.
Other fats.....	95.73 " "

Oleomargarine. No signs displayed in room.

No. C-356. Sample from J. W. Crater, Restaurant, Grand Rapids.

Butter fat.....	7.48 per cent.
Other fats.....	92.52 " "

Oleomargarine. No signs displayed in room.

No. C-358. Sample from Dan M. Thorington, Restaurant, Grand Rapids.

Butter fat.....	5.03 per cent.
Other fats.....	94.97 " "

Oleomargarine. No signs displayed in room.

No. C-359. Sample from W. O. Foote, Restaurant, Grand Rapids.

Butter fat.....	6.30 per cent.
Other fats.....	93.70 " "

Oleomargarine. No signs displayed in room.

CREAM OF TARTAR.

No. G-464. Sample of cream of tartar taken from original package at Grand Rapids.
Sold (1893) by Santa Clara Mfg. Co., Omaha, Neb.

Producers, Santa Clara Mfg. Co., Omaha, Neb.

Cream of tartar.....	8.48 per cent.
Water.....	10.40 " "
Acid phosphate of lime.....	32.30 " "
Phosphate of lime.....	5.69 " "
Gypsum.....	37.11 " "
Corn starch.....	5.02 " "

Adulterated with phosphate and sulphate of lime and corn starch.

No. G-472. Sample (brand "Pure Cream of Tartar") from Chas. Hoffman, Grand Rapids.

Sold (1898) by Hilker & Bletsch, Cincinnati, Ohio.

Producers, Hilker & Bletsch, Cincinnati, Ohio.

Cream of tartar.....	37.00	per cent.
Water.....	18.97	" "
Acid phosphate of lime.....	22.06	" "
Phosphate of lime.....	3.64	" "
Sulphate of lime.....	10.93	" "
Corn starch.....	7.40	" "

Adulterated with phosphate of lime and corn starch.

No. G-474. Sample from Chas. Hoffman, Grand Rapids.

Sold (1898) by E. M. Craighead, Omaha, Neb.

Cream of tartar.....	None.	
Water.....	10.48	per cent.
Acid phosphate of lime.....	34.04	" "
Phosphate of lime.....	6.47	" "
Gypsum.....	41.98	" "
Corn starch.....	7.03	" "

Imitation cream of tartar.

EXTRACTS.—(Flavoring.)

No. A-164. Sample of vanilla (brand "Standard") taken at Monroe. Dealer had not placed same on sale.

Producers, Crofts & Reed, Chicago, Ill.

Solid extract.....	29.50	per cent.
Ash.....	0.21	" "
Vanillin.....	0.026	" "
Coumarin.....	0.018	" "
Coloring.....	Artificial.	

Extract of vanilla and tonka artificially colored.

No. A-165. Extract of banana (brand "Pure Concentrated") taken at Monroe. Dealer had not placed same on sale.

Producers, Crofts & Reed, Chicago, Ill.

Solid extract.....	1.89	per cent.
Ash.....	.008	" "
Alcohol.....		
Ethers.....		

An artificial extract composed of alcohol and compound ethers.

No. A-166. Sample of pineapple extract taken at Monroe. Dealer had not placed same on sale.

Producers, Crofts & Reed, Chicago, Ill.

Solid extract.....	1.07	per cent.
Ash.....	1.01	" "
Alcohol.....		
Ethers.....		

An artificial extract composed of alcohol and compound ethers.

No. G-431. Sample extract vanilla and tonka (brand "Standard") from Bird Bros. Pontiac.

Sold (1898).

Producers, Foote & Jenks, Jackson.

Solid extract.....	14.04 per cent.
Ash.....	0.16 " "
Vanillin.....	0.023 " "
Coumarin.....	0.033 " "
Coloring.....	Artificial.

Artificially colored.

No. G-465. Sample extract of peach (brand "Jenning's") from E. J. Herriok, Grand Rapids.

Sold by Jennings & Smith, Grand Rapids.

Producers, Jennings & Smith, Grand Rapids.

Solid extract.....	0.87 per cent.
Ash.....	0.01 " "
Alcohol.....	-----
Ethers.....	-----

Artificial extract composed of alcohol and compound ethers.

No. G-470. Sample extract of vanilla (brand "A & P") from the Great Atlantic & Pacific Tea Co., Grand Rapids.

Sold (1898).

Producers, The Great Atlantic & Pacific Tea Co., New York City.

Solid extract.....	13.35 per cent.
Ash.....	0.13 " "
Vanillin.....	0.014 " "
Coloring.....	Artificial.

Artificially colored.

HONEY.

No. A-169. Sample of extracted honey taken from original package at Jackson. Sold (1898) by Hilker & Bletsch, Cincinnati, Ohio.

Water.....	22.80 per cent.
Ash.....	0.44 " "
Sucrose.....	2.24 " "
Reducing sugar.....	55.55 " "
Polarization, direct.....	+64 degrees.
Polarization, indirect.....	+61 degrees.

Commercial glucose flavored with honey.

JELLY.

No. G-433. Sample of strawberry jam from A. Rommeck, Detroit. Sold (1898) by Ayers & Reynolds, Detroit.

Producers, Queen City Preserving Co., Cincinnati, Ohio.

Water.....	30.00 per cent.
Ash.....	0.72 " "
Sucrose.....	4.38 " "
Reducing sugar.....	38.46 " "
Starch paste.....	Present.

Sample consists of commercial glucose and starch paste with small amount of fruit.

MILK.

No. D-63. Sample from Mr. and Mrs. E. L. Bellamy, Jackson.

Specific gravity.....	1.036
Water.....	88.86 per cent.
Total solids.....	11.14 " "
Milk fat.....	1.82 " "
Solids not fat.....	9.32 " "
Ash.....	0.83 " "

Below the standard in solids and milk fat.

No. D-64. Sample from Conklin & Hamlin, Jackson.

Specific gravity.....	1.034
Water.....	88.06 per cent.
Total solids.....	11.94 " "
Milk fat.....	2.60 " "
Solids not fat.....	9.34 " "
Ash.....	0.78 " "

Below the standard in solids and milk fat.

No. D-66. Sample from M. C. R. R. Dining Hall, Jackson.

Specific gravity.....	1.037.
Water.....	89.46 per cent.
Total solids.....	10.54 " "
Milk fat.....	0.84 " "
Solids not fat.....	9.70 " "
Ash.....	0.86 " "

Below the standard in solids and milk fat.

No. D-67. Sample from M. C. R. R. Dining Hall, Jackson.

Specific gravity.....	1.037.
Water.....	89.42 per cent.
Total solids.....	10.58 " "
Milk fat.....	0.84 " "
Solids not fat.....	9.74 " "
Ash.....	0.86 " "

Below the standard in solids and milk fat.

No. D-69. Sample from James Delehanty, Jackson.

Specific gravity.....	1.023.
Water.....	90.05 per cent.
Total solids.....	9.95 " "
Milk fat.....	3.52 " "
Solids not fat.....	6.43 " "
Ash.....	0.59 " "

Below the standard in solids.

MUSTARD (Dry).

No. G-467. Sample of dry mustard (brand "A & P") from The Great Atlantic & Pacific Tea Co., Grand Rapids.

Sold (1898).

Producers, The Great Atlantic & Pacific Tea Co., New York City.

Ash.....	5.97 per cent.
Wheat starch.....	38.53 " "
Mustard.....	
Coloring.....	Turmeric.

Adulterated with wheat flour and colored with turmeric.

MUSTARD (Prepared).

No. G-475. Sample of prepared mustard (brand "Lynch's") from H. C. Wendorff, Grand Rapids.

Sold (1898) by Daniel Lynch, Grand Rapids.

Producer, Daniel Lynch, Grand Rapids.

Solids	20.15 per cent.
Ash	3.00 " "
Starch	2.13 " "
Mustard	
Vinegar	
Spices	

Adulterated with small amount of foreign starchy matter.

OLEOMARGARINE.

No. C-333. Sample from R. B. Shank & Co., Lansing.

Butter fat	2.66 per cent.
Other fats	97.34 " "
Coloring	Foreign.

Artificially colored.

No. C-334. Sample from Peter Schuit, Grand Rapids.

Butter fat	4.11 per cent.
Other fats	95.89 " "
Coloring	Foreign.

Artificially colored.

No. C-335. Sample from B. S. Harris, Grand Rapids.

Butter fat	4.80 per cent.
Other fats	95.20 " "
Coloring	Foreign.

Artificially colored.

No. C-336. Sample from Hilber & Goetz, Grand Rapids.

Butter fat	5.10 per cent.
Other fats	94.90 " "
Coloring	Foreign.

Artificially colored.

No. C-338. Sample from Wm. Killeen, Grand Rapids.

Butter fat	3.03 per cent.
Other fats	96.97 " "
Coloring	Foreign.

Artificially colored.

No. C-340. Sample from F. J. Dettenthaler, Grand Rapids.

Butter fat	14.06 per cent.
Other fats	85.94 " "
Coloring	Foreign.

Artificially colored.

No. C-341. Sample from Morse Dry Goods Co., Grand Rapids.

Butter fat	1.83 per cent.
Other fats	98.17 " "
Coloring	Foreign.

Artificially colored.

No. G-437. Sample from McWilliams & Moore, Detroit.

Butter fat.....	2.21 per cent.
Other fats.....	97.79 " "
Coloring.....	Foreign.

Artificially colored.

No. G-438. Sample from McWilliams & Moore, Detroit.

Butter fat.....	2.26 per cent.
Other fats.....	97.74 " "
Coloring.....	Foreign.

Artificially colored.

No. G-439. Sample from Peter Smith & Sons, Detroit.

Butter fat.....	2.20 per cent.
Other fats.....	97.80 " "
Coloring.....	Foreign.

Artificially colored.

No. G-440. Sample from Clarence Chrysler, Detroit.

Butter fat.....	2.22 per cent.
Other fats.....	97.78 " "
Coloring.....	Foreign.

Artificially colored.

No. G-442. Sample from D. Morphy, Detroit.

Butter fat.....	5.16 per cent.
Other fats.....	94.84 " "
Coloring.....	Foreign.

Artificially colored.

No. G-443. Sample from Chas. Hilderscheid, Detroit.

Butter fat.....	2.21 per cent.
Other fats.....	97.79 " "
Coloring.....	Foreign.

Artificially colored.

No. G-444. Sample from John Blessed & Son, Detroit.

Butter fat.....	4.20 per cent.
Other fats.....	95.80 " "
Coloring.....	Foreign.

Artificially colored.

No. G-445. Sample from Thomas Horigan, Detroit.

Butter fat.....	3.90 per cent.
Other fats.....	96.10 " "
Coloring.....	Foreign.

Artificially colored.

No. G-446. Sample from Addison Bros., Detroit.

Butter fat.....	6.53 per cent.
Other fats.....	93.47 " "
Coloring.....	Foreign.

Artificially colored.

No. G-447. Sample from Chas. Addison, Detroit.

Butter fat.....	6.15 per cent.
Other fats.....	93.85 " "
Coloring.....	Foreign.

Artificially colored.

No. G-449. Sample from Jarvis Bros, Detroit.

Butter fat.....	7.46 per cent.
Other fats.....	92.54 " "
Coloring.....	Foreign.

Artificially colored.

No. G-451. Sample from R. Dowais & Sons, Detroit.

Butter fat.....	5.12 per cent.
Other fats.....	94.88 " "
Coloring.....	Foreign.

Artificially colored.

PEPPER.

No. G-428. Sample From Bird Bros., Pontiac.

Sold (1898).

Ash.....	2.33 per cent.
Starch.....	76.01 " "
Piperine and resin.....	4.53 " "

Adulterated with corn meal.

VINEGAR.

No. G-463. Sample of cider vinegar from F. J. Dettenthaler, Grand Rapids.

Specific gravity.....	1.0077.
Acid as acetic.....	2.50 per cent.
Total solids.....	1.61 " "
Ash.....	0.47 " "

Below standard in solids and acid strength.

CHEESE FACTORIES.

*Registered in Michigan with privilege to use the "Michigan Full Cream Cheese" brand
from April 1, 1898, to April 1, 1899.*

Name.	Location.	Post Office Address.	Brand No.
Arbela Cheese Co.	Arbela	Clio	1
Springdale Cheese Factory	Hopkins Station	Hopkins Station	8
Havens Cheese Factory	Bloomington	Bloomington	5
Zeeland Cheese Factory	Zeeland	Zeeland	7
Riverside Cheese Factory	Hopkins	Hopkins	8
Ransom Cheese Factory	Ransom	Ransom	9
Riverside Cheese Factory	Fairfield T'wp	Adrian	10
Byron Cheese Factory	Elsie	Elsie	12
Frankentrost Cheese Co.	Kulmbach	Kulmbach	13
Saganing Cheese Co.	Standish	Standish	15
Base Line Factory	Bloomington	Bloomington	16
Tipton Cheese Co.	Tipton	Fairfield	19
Eaton Rapids Butter & Cheese Factory	Eaton Rapids	Eaton Rapids	20
Buena Vista Cheese Co.	Buena Vista	Saginaw, E. S.	21
Moline Cheese Co.	Moline	Moline	22
Spring Hill Cheese Factory	Hopkins Station	Hopkins Station	23
Lowell Cheese Factory	Lowell	Lowell	25
Vienna Cheese Factory	Clio	Clio	26
Hudson Center Cheese Factory	Hudson	Hudson	29
Lawndale Cheese Factory	Lawndale	Lawndale	30
Hartford Cheese Co.	Hartford	Hartford	32
Port Hope Cheese Factory	Port Hope	Port Hope	33
North Dorr Cheese Factory	North Dorr	North Dorr	35
Bar View Cheese Co.	Mitchell	Mitchell	36
Union Cheese Mfg. Co.	Frankenmuth	Frankenmuth	37
Juddville Cheese Factory	Judd's Corners	Judd's Corners	38
Liberty Cheese Factory	Liberty	Liberty	39
Fairfield Cheese Factory	Madison T'wp	Fairfield	40
Grand Blanc Cheese Factory	Grand Blanc	Grand Blanc	41
Butternut Cheese Factory	Butternut	Butternut	45
Cass River Cheese Factory	Frankenmuth	Frankenmuth	46
Chapin Cheese Factory	Chapin	Chapin	47
Bonney Butter and Cheese Co.	Bonney	Bonney	48
Beddow Cheese Factory	Beddow	Beddow	49
Waltz Cheese Factory	Waltz	Waltz	50
Carleton Cheese Co.	Carleton	Carleton	51
Millington Cheese Mfg. Co.	Millington	Millington	52
Jones & Moyer	Grand Ledge	Grand Ledge	53
Cadmus Cheese Factory	Cadmus	Cadmus	54
Downington Cheese Factory	Downington	Downington	55
Excelsior Cheese Factory	Willis	Willis	56
Silverwood Cheese Factory	Silverwood	Silverwood	57
Remus Cheese Factory	Remus	Remus	58
Dundee Cheese Factory	Dundee	Dundee	59
Spring Brook Cheese Factory	N. Farmington	N. Farmington	60
Burton Cheese Factory	Burton Township	Flint	61
Camden Cheese Factory	Camden	Camden	62
Ogden Cheese Factory	Ogden Station	Ogden Station	63
Monitor Cheese Factory	Monitor	Monitor	64
Nuffer Bros' Cheese Factory	Amelith	Amelith	65

Registered Cheese Factories.—Continued.

Name.	Location.	Post Office Address.	Brand No.
Willow Springs Cheese Factory.....	Kochville.....	Kochville.....	66
State Road Cheese Factory.....	Clio.....	Clio.....	67
Tuscola Cheese M'fg Co.....	Tuscola.....	Tuscola.....	68
Coldspring Cheese Factory.....	Hilliards.....	Moline.....	69
Brant Cheese Factory.....	Brant.....	Brant.....	70
West Branch Cheese Factory.....	W. Branch.....	W. Branch.....	71
Summit Cheese Factory.....	Jackson.....	Jackson.....	72
Vogel Center Cheese Factory.....	Vogel Center.....	Vogel Center.....	73
Michigan Cheese Factory.....	Mikado.....	Mikado.....	74
Michigan Cheese Factory.....	Long Rapids.....	Long Rapids.....	75

The "Michigan Full Cream Cheese" brand may be obtained upon application to the Dairy and Food Department, by giving the name and location of the factory, the name of the owner or manager, and the name of the person or persons at each factory authorized to use such brand, together with the required fee of one dollar. "No such brand shall be used upon other than full cream cheese or packages containing the same." Fee must be paid and registration made *each year* on or before April 1.

ABSTRACT OF LAWS.

The following synopsis of the laws enacted to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink, though not exhaustive or complete, will be found useful:

IN GENERAL.

(Act No. 193, Public Acts 1893, as amended by Act No. 118, Public Acts 1897.)

People vs. Snowberger, Michigan Supreme Court.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act is deemed a sale.

Under this statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled, "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredient injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled, "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee, must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—*Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.*

Extracts made of more than one principle must be labeled with the name of each principle, or else simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., *are strictly prohibited in this State.*

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' package must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask, or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of color ing matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—Oleomargarine must not be sold in this State, *unless* free from coloration or ingredient that causes it to look like butter. Oleomargarine must be branded as such and stores, hotels, restaurants, boarding houses, etc., "shall have placed on the outside door and conspicuously hung in the center, and placed on the walls of any store or room where food is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, with the words 'Oleomargarine or butterine sold or used here.'"

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or Compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard" and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words, "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

SYRUPS.—Each barrel, cask, can, keg or pall containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard, or cider vinegar.

CAUTION.

The trade is warned that the foregoing is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

BULLETIN NO. 42.

FEBRUARY, 1899.

STATE OF MICHIGAN

DAIRY AND FOOD COMMISSION



BY AUTHORITY

LANSGING
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

OFFICE OF THE

MICHIGAN DAIRY AND FOOD COMMISSION

LANSING, MICHIGAN

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY
F. H. BORRADAILE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD COMMISSION.

A WARNING TO THE PUBLIC.

The Department wishes to warn the public against certain non-resident concerns who are attempting to foist their adulterated goods upon consumers through the medium of itinerate or house-to-house peddlers.

By means of attractive advertisements, agents are obtained to handle these adulterations throughout the State, thus bringing them into direct competition with the pure goods of our local merchants.

While we do not wish to be understood as saying that all non-resident concerns shipping goods into the state in this way are supplying goods that do not comply with the law, we do wish to caution the purchasing public to exercise the utmost care in buying goods sold in this manner.

We regret exceedingly that such concerns, operating as they do without the State, are beyond our jurisdiction and can not be reached by process from our criminal courts.

Under the law, the responsibility for the purity of all articles sold in this manner must necessarily be confined to the person handling the same within the State.

In this connection we believe it our duty to call the attention of the public to a concern operating in Chicago who announce their business to the people of Michigan in the State press, as follows:

MEN AND WOMEN wanted; we will help honest men and women to earn a living and save money by distributing samples and selling to private families our fine toilet soaps, flavoring extracts, flavoring powders, complexion preparations, perfumery, etc.; no money required; write to-day for particulars. CROFTS & REED, Chicago.

Extracts shipped into the State by this firm, the sale of which was prevented by one of the Department inspectors, proved upon analysis to be most fraudulent adulterations.

The Department is determined to do all in its power to stop the sale of such goods, and we will extend no lenity to persons found within the State having the same in their possession for sale.

REGISTRATION OF CHEESE FACTORIES AND CREAMERIES.

The attention of all proprietors of cheese factories, creameries and butter factories where milk or cream is purchased of or contributed by three or more persons is called to the provision of the statute requiring them to register the location of such factory and the name of its owner or manager with this Department on or before the first day of the coming April. Factories registered for the fiscal year beginning April 1, 1898, and intending to continue business after April 1, 1899, must re-register, the intent of the statute being that a new registration be had each year. No fee is required for such registration.

Manufacturers of cheese desiring to use the "Michigan Full Cream Cheese" brand must register with the Department and remit the required fee of one dollar on or before April 1. Those already provided with brands and who desire to continue the use of the same after April 1, 1899, must re-register and pay the statutory fee.

Blanks upon which to make such registration will be furnished upon application to this office.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1898.

Cases pending July 1, 1898.....	39
Cases commenced since said date.....	39
* Cases nolle prossed	23

CASES DISPOSED OF.

Before Examining Magistrates	17	{ Defendants bound over to trial courts.....	8
		{ † Defendants discharged on examination...	9
In Trial Courts.....	12	{ Defendants convicted	11
		{ Defendants acquitted	1
In Supreme Court.....	2	{ Conviction affirmed.....	1
		{ Conviction set aside	1
Cases pending March 1, 1899.....			33

PROCEEDINGS HAD DURING MONTH OF FEBRUARY, 1899.

The case pending in the Police Court in the City of Jackson, against Frank A. Lincoln, charged with having sold artificially colored oleomargarine, came up for examination on the 7th inst. Defendant was bound over to the Circuit Court for the county of Jackson for trial.

Complaint was made on the 8th inst., in the Police Court of the City of Jackson, against Peter Dunn, as manager of the Michigan Central R. R. Co.'s dining rooms at Jackson, charged with having sold adulterated milk. Defendant was arraigned on the 15th inst. and entered a plea of guilty. A fine of \$5.00 was imposed by the court.

Complaints were made on the 8th inst., in the Police Court of the City of Jackson, against Conklin & Hamlin, James Delehanty and E. L. Bellamy, and on the 15th inst. against Hiram Strong, all the defendants being charged with having sold adulterated milk. Trials have been set for March 2d.

On the 7th inst., a complaint was presented in Justice Court in the City of Ann Arbor, against Casper Rinsey, charging him with having sold artificially colored oleomargarine.

* 20 oleomargarine cases nolle prossed. Supreme Court having declared anti color statute invalid.
 † 8 oleomargarine cases.

The Justice of the Peace to whom said complaint was offered refused to entertain the same. On the 11th inst., a petition was filed in the Circuit Court for the County of Washtenaw, asking for a writ of mandamus to compel the Justice to entertain said complaint and issue a warrant thereon, which said petition was denied.

The Department has in preparation and will file a petition in the Supreme Court asking for a writ of certiorari removing all proceedings to that Court for final adjudication.

INSPECTIONS.

The following places were visited during the month of February by the Department's inspection force:

Berrien Springs, Stevensville, Watervliet, Hartford, Hillsdale, North Adams, Litchfield, Denton, Canton, Wayne, Dearborn, Inkster, Romulus, Belleville, Whitaker, Morenci, Weston, Blissfield, Grand Rapids, Durand, St. Johns, Elsie, Corunna, Leslie, Mason, New Lothrop, Owosso, Flint, Holly, Bancroft, Byron, Laingsburg, Oakley, East Cohoctah, Ovid.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of February, 1899.

At Battle Creek :

Isaac Colvin—Condition of cows, generally clean; stable, in poor condition; ventilation, poor; water, well; sanitary conditions in general, poor.

Frank Hawkins—Condition of cows, generally clean; stable, ceilings dusty; ventilation, poor; water, well; sanitary conditions, poor; manure accumulated near stable. Sells milk to Battle Creek Creamery.

E. M. Morgan—Condition of cows, clean; stables, ceilings dusty; ventilation, fair; water, well; sanitary conditions, poor; manure accumulated in yard; milk strained in stable. Sells milk to the Battle Creek Creamery.

G. Johnson—Condition of cows, fairly clean; stable in fair condition; water, well; sanitary conditions, poor; manure accumulated in yard. Sells milk to the Battle Creek Creamery.

B. F. Morgan—Condition of cows, generally clean; stable, ceilings dusty; ventilation, fairly good; water, well. Sells milk to the Battle Creek Creamery.

O. Adams—Condition of cows, generally clean; stable, ceilings dusty; ventilation, fair; water, creek; manure accumulated near stable.

Daniel Eccles—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor; manure accumulated in yard.

W. A. Helmer—Condition of cows, clean; stables, clean; ventilation, good; water, spring; sanitary conditions in general, fair.

Charles Smith—Condition of cows, clean; stable, clean; ventilation, fairly good; water, well; milk strained in barn. Sells milk to John Dewater.

Coy & Roth—Condition of cows, generally clean; stable, clean; ventilation, fairly good; water, well; sanitary conditions, fair; uses an aerator.

F. A. Finlay—Condition of cows, clean; stables, clean; ventilation, fair; water, well; sanitary conditions, fair; uses an aerator.

Adam Remes—Condition of cows, generally clean; stables, clean; ventilation, good; water, well; sanitary conditions, poor; milk strained in stable.

J. M. Willison—Condition of cows, clean; owing to the heavy rains, stable was submerged; water, well; uses an aerator. Sells milk to C. E. Rossman.

C. B. Converse—Condition of cows, generally clean; stable, fairly clean; ventilation, fair; sanitary conditions, poor; manure accumulated near stable. Sells milk to Alonzo Sackett.

Chas. Wheelock—Condition of cows, generally clean; stable, fairly clean; ventilation, fair; water, well; sanitary conditions, fair; uses a separator.

George Brinninstoll—Condition of cows, clean; stables in poor condition; horse stable in connection; water, well; sanitary conditions, poor. Sells milk to Myron Paul.

Wm. Sackrider—Condition of cows, clean; stable has cement floor, dusty ceiling, horse stable in connection, drainage good; ventilation, good; uses well water; sanitary conditions, poor; milk strained in barn; uses a separator. Sells milk to Thomas Mitchell.

C. M. Christiansen—Condition of cows, clean; stable, fairly clean; uses lime in stable; ventilation, good; water, well; sanitary conditions, fair; the milk is taken to the sanitarium and treated there.

J. G. Ulrich—Condition of cows, generally unclean; ceiling of stable very dusty; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor; milk strained in stable. Sells milk to Isaac Colvin, James Stringer and O. Adams.

Edward Sanford—Condition of cows, very clean and in good condition; stables, clean; ventilation, good; water, well; sanitary conditions, fair; uses an aerator; milk strained in barn. Sells milk to James Stringer.

Robert Mitchell—Condition of cows, clean; stables, clean; ventilation fairly good; water, well; sanitary conditions in general, fair. Sells milk to Thomas Mitchell.

C. F. Beach—Stables, fairly clean; ventilation, fair; water, creek; sanitary conditions, poor; manure accumulated in yard. Sells milk to the Battle Creek Creamery.

John McBain—Condition of cows, generally clean; stable, ceiling dusty; ventilation, good, water, well; sanitary conditions, poor; stable has cement floor; horse stable in connection with cow stable. Sells milk to the Battle Creek Creamery.

Sterling & Nichols—Condition of cows, clean; stable, ceilings dusty; ventilation, fair; water, well; sanitary conditions, poor; milk strained in stable. Sells milk to the Battle Creek Creamery.

E. G. Beckley—Condition of cows, generally clean; stable, ceilings dusty; ventilation, good; water, well; sanitary conditions, poor; manure accumulated in yard; milk strained in stable. Sells milk to the Battle Creek Creamery.

The feeding of swill, brewery slops, dry, ripe corn husks, straw and other food that has little or no substance left in it for nourishment and warmth, will eventually and surely lead to impoverished animals; milk poor in per cent of solids, and consequently high in the per cent of water, skin troubles, falling out of hair from the tail, scurvy and susceptibility to tuberculosis, and other dangerous diseases. The law prohibits the sale of milk produced from any cow fed upon the refuse of a distillery, or of a brewery, garbage, swill, or upon any substance which would depreciate the quality of the milk.

CHEMIST'S REPORT.

Lansing, Mich., February 28, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of February, 101 samples of food products have been examined, 48 being pure and 53 adulterated.

F. H. BORRADAILE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Buckwheat flour.....	19	17	2
Butter.....	1	0	1
Cinnamon.....	6	2	4
Cream of tartar.....	7	0	7
Cocoa.....	2	2	0
Extracts (flavoring).....	8	2	6
Honey.....	2	0	2
Jelly.....	1	0	1
Milk.....	21	17	4
Molasses.....	2	2	0
Mustard (dry).....	2	1	1
Mustard (prepared).....	3	0	3
Oleomargarine.....	14	0	14
Pepper.....	7	1	6
Vinegar.....	6	4	2
Totals.....	101	48	53

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them, and only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUCKWHEAT FLOUR.

No. A-185. Sample of buckwheat flour (Mrs. Austin's Quick Raising) from G. A. Parren, Three Oaks.

Sold (1898) by Riddell Grocery Co., South Bend, Ind.

Producers, The Russ Co., South Bend, Ind.

Buckwheat flour	
Wheat flour	
Corn starch	
Baking-powder and salt	

Package not properly labeled.

No. A-196. Sample of buckwheat flour (U. S. Baking Co.'s Self Raising) from Barnhart & Shepard, Litchfield.

Sold (1898) by Worts, Kirk & Bigelow, Toledo, Ohio.

Producers, U. S. Baking Co.

Buckwheat flour	
Wheat and corn	
Baking powder and salt	

Package not properly labeled.

BUTTER.

No. G-503. Sample from Chas Hoffman, restaurant, Grand Rapids.

Butter fat	8.73 per cent.
Other fats	91.27 " "

Oleomargarine. No signs displayed in room.

CINNAMON.

No. G-493. Sample from John W. Dykstra, Grand Rapids.

Sold (1897) by Edwin J. Gillies & Co., New York City.

Ash	5.21 per cent.
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Microscopical examination shows the presence of a small amount of cane sugar.

No. G-500. Sample of cinnamon (Brand "Absolutely Pure") from M. Connelly, Grand Rapids.

Sold (1897) by Edwin J. Gillies & Co., New York City.

Ash	4.55 per cent.
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Microscopical examination shows the presence of a small amount of cane sugar.

No. G-513. Sample of cinnamon from Mrs. M. A. Willard, Grand Rapids.
Sold (1898).

Ash 4.68 per cent.

Microscopical examination shows the presence of a small amount of cane sugar.

No. G-523. Sample of cinnamon from Fred W. Wurzburg, Grand Rapids.
Sold (1898) by Franklin MacVeagh & Co., Chicago, Ill.

Ash 3.39 per cent.
Starch 28.69 " "

Ground cassia adulterated with cracker crumbs.

CREAM OF TARTAR.

No. A-184. Sample from G. A. Parren, Three Oaks.
Sold (1898) by W. J. Quan & Co., Chicago, Ill.

Cream of tartar None.
Corn starch 11.97 per cent.
Acid phosphate of lime 18.38 " "
Phosphate of lime 5.15 " "
Gypsum 49.13 " "
Water 15.37 " "

Imitation cream of tartar.

No. A-186. Sample of cream of tartar from Rist & Downer, Three Oaks.
Sold (1898) by W. J. Quan & Co.

Cream of tartar None.
Corn starch 10.04 per cent.
Acid phosphate of lime 19.44 " "
Phosphate of lime 5.56 " "
Gypsum 50.66 " "
Water 14.30 " "

Imitation cream of tartar.

No. A-188. Sample of cream of tartar from Benjamin Legters, Three Oaks.
Sold (1898) by W. J. Quan & Co., Chicago, Ill.

Cream of tartar None.
Corn starch 10.82 per cent.
Acid phosphate of lime 18.09 " "
Phosphate of lime 5.48 " "
Gypsum 49.78 " "
Water 15.83 " "

Imitation cream of tartar.

No. C-365. Sample of cream of tartar (Brand "Strictly Pure") from original package,
Bay City.

Sold (1898) by California Borax Association, Omaha, Neb.
Producers, California Tartar Co., San Francisco, Cal.

Cream of tartar None.
Corn starch 11.96 per cent.
Acid phosphate of lime 24.63 " "
Phosphate of lime 9.19 " "
Sulphate of lime 18.73 " "
Alum (Anhydrous) 10.92 " "
Water 24.57 " "

Imitation cream of tartar.

No. G-489. Sample of cream of tartar from Arthur J. Lane, Grand Rapids.
Sold (1896) by Ball-Barnhart-Putman Co., Grand Rapids.

Cream of tartar	None.
Corn starch	32.50 per cent.
Acid phosphate of lime	15.31 " "
Phosphate of lime	1.23 " "
Sulphate of lime	17.88 " "
Alum (Anhydrous)	17.77 " "
Water	15.31 " "

Imitation cream of tartar.

No. G-491. Sample of cream of tartar from Martin Van Wingen, Grand Rapids.
Sold by Lemon & Wheeler Co., Grand Rapids.

Cream of tartar	None.
Corn starch	17.26 per cent.
Acid phosphate of lime	0.72 " "
Phosphate of lime	0.54 " "
Gypsum	41.81 " "
Alum (Anhydrous)	18.85 " "
Water	20.85 " "

Imitation cream of tartar.

No. G-493. Sample of cream of tartar from L. Luikaart, Grand Rapids.

Cream of tartar	None.
Acid phosphate of lime	28.70 per cent.
Phosphate of lime	12.25 " "
Gypsum	49.05 " "
Water and corn starch	10.00 " "

Imitation cream of tartar.

EXTRACTS.—(Flavoring.)

No. A-182. Sample extract vanilla (Brand "Competition Superfine") from Gillett & Hatfield, Niles.

Sold (1896).

Solid extract	9.84 per cent.
Ash	0.04 " "
Vanillin	0.002 " "
Coumarin	0.020 " "
Coloring	Artificial.

Adulterated with coumarin and artificially colored.

No. G-483. Sample of extract of vanilla (Brand "De Boe's") from Ab. Ghysels.
Grand Rapids.

Sold (1896) by De Boe, King & Co., Grand Rapids.

Producers, De Boe, King & Co., Grand Rapids.

Solid extract	15.80 per cent.
Ash	0.06 " "
Vanillin	0.002 " "
Coumarin	0.015 " "
Coloring	Artificial.

Adulterated with coumarin and artificially colored.

No. G-485. Sample of extract vanilla and tonka from Mrs. M. Ritzema, Grand Rapids.

Sold (1898) by Edwin J. Gillies & Co., New York City.

Producers, Crescent Extract Co., New York City.

Solid extract.....	19.92 per cent.
Ash.....	0.09 " "
Vanillin.....	0.001 " "
Coumarin.....	0.006 " "
Coloring.....	Artificial.

Artificially colored.

No. G-492. Sample extract of vanilla (Brand "De Boe's Pure Concentrated") from E. C. Jenkins & Co., Grand Rapids.

Sold (1898) by De Boe, King & Co., Grand Rapids.

Producers, De Boe, King & Co., Grand Rapids.

Solid extract.....	14.45 per cent.
Ash.....	0.08 " "
Vanillin.....	0.003 " "
Coumarin.....	0.017 " "
Coloring.....	Artificial.

Adulterated with coumarin and artificially colored.

No. G-506. Sample extract of vanilla (Brand "Double Strength") from Thos. Van Kuiken & Co., Grand Rapids.

Sold (1897) by Ball-Barnhart-Putman Co., Grand Rapids.

Producers, The J. P. Dieter Co., Chicago, Ill.

Solids.....	9.78 per cent.
Ash.....	0.13 " "
Vanillin.....	0.016 " "
Coumarin.....	0.019 " "

Adulterated with coumarin.

No. G-525. Sample extract vanilla (Brand "Golden Coin") from F. W. Wursburg, Grand Rapids.

Sold (1899) by De Boe, King & Co., Grand Rapids.

Producers, De Boe, King & Co., Grand Rapids.

Solid extract.....	15.91 per cent.
Ash.....	0.08 " "
Vanillin.....	0.022 " "
Coumarin.....	0.025 " "
Coloring.....	Artificial.

Adulterated with coumarin and artificially colored.

HONEY.

No. A-189. Sample of extracted honey (Brand "Fancy Selected") from Berman & Goldstein, Benton Harbor.

Water.....	16.45 per cent.
Ash.....	0.27 " "
Reducing sugar.....	57.87 " "
Polarization, direct.....	+84 degrees.
Polarization, indirect.....	+82 degrees.

Glucose flavored with a small piece of comb honey.

No. A-193. Sample of honey compound from Enders & Young, Watervliet.
Sold (1898) by Merriam, Collins & Co., Chicago, Ill.

Water.....	16.26 per cent.
Ash.....	0.40 " "
Reducing sugar.....	52.09 " "
Polarization, direct.....	+128.6 degrees.
Polarization, indirect.....	+123.20 degrees.

Glucose flavored with honey.

JELLY.

No. G-490. Sample of strawberry preserves from Arthur J. Lane, Grand Rapids.
Sold (1898) by Musselman Grocer Co., Grand Rapids.
Producers, The Fee & Brown Co., Detroit.

Water.....	22.62 per cent.
Ash.....	0.89 " "
Reducing sugar.....	41.66 " "
Sucrose.....	none.
Starch paste.....	Present.
Coloring.....	Artificial.

A few strawberries in a syrup composed of glucose, starch paste and artificial coloring matter.

MILK.

No. D-87. Sample from Charles Strong, Jackson.

Specific gravity.....	1.036
Water.....	88.66 per cent.
Total solids.....	11.34 " "
Milk fat.....	1.65 " "
Solids not fat.....	9.69 " "
Ash.....	0.87 " "

Below the legal standard in solids and milk fat.

No. D-88. Sample from De Witt C. Miller, Battle Creek.

Specific gravity.....	1.036
Water.....	89.08 per cent.
Total solids.....	10.92 " "
Milk fat.....	1.20 " "
Solids not fat.....	9.72 " "
Ash.....	0.85 " "

Below the legal standard in solids and milk fat.

No. D-89. Sample from Percy L. Graham, Battle Creek.

Specific gravity.....	1.030
Water.....	89.05 per cent.
Total solids.....	10.95 " "
Milk fat.....	1.77 " "
Solids not fat.....	9.18 " "
Ash.....	0.76 " "

Below the legal standard in solids and milk fat.

No. D-96. Sample from Clarence Severance, Battle Creek.

Specific gravity.....	1.035
Water.....	88.64 per cent.
Total solids.....	11.36 " "
Milk fat.....	2.13 " "
Solids not fat.....	9.23 " "
Ash.....	0.78 " "

Below the standard in solids and milk fat.

MUSTARD (Dry).

No. G-522. Sample of dry mustard from Kusterer Bros., Grand Rapids.
Sold (1898) by Sherman Bros & Co., Chicago, Ill.

Ash.....	6.29 per cent.
Mustard.....	
Coloring.....	Turmeric.

Artificially colored.

MUSTARD (Prepared).

No. G-497. Sample of prepared mustard (brand "EXWACO") from L. Luikaart,
Grand Rapids.
Sold (1898) by Ball-Barnhart-Putman Co., Grand Rapids.
Producers, Exley, Watkins & Co., Wheeling, West Va.

Solids.....	16.28 per cent.
Ash.....	3.00 " "
Starch.....	2.34 " "
Vinegar.....	
Mustard.....	
Spices and turmeric.....	

Adulterated with a small amount of corn starch.

No. G-514. Sample of prepared mustard (brand "EXWACO") from B. Brogger,
Grand Rapids.
Sold (1899) by Musselman Grocer Co., Grand Rapids.
Producers, Exley, Watkins & Co., Wheeling, West Va.

Solids.....	16.29 per cent.
Ash.....	3.00 " "
Starch.....	2.34 " "
Vinegar.....	
Mustard.....	
Spices and turmeric.....	

Adulterated with a small amount of corn starch.

No. G-517. Sample of prepared mustard from W. R. Lawton, Grand Rapids.
Sold (1899) by Lemon & Wheeler Co., Grand Rapids.
Producers, The J. P. Dieter Co., Chicago, Ill.

Solids.....	21.02 per cent.
Ash.....	3.10 " "
Starch.....	
Mustard.....	
Vinegar.....	
Spices.....	

Adulterated with a small amount of corn starch.

OLEOMARGARINE.

No. C-343. Sample from R. B. Shank & Co., Lansing.

Butter fat.....	3.82 per cent.
Other fats.....	96.18 " "
Coloring.....	Foreign.

Artificially colored.

No. C-344. Sample from R. B. Shank & Co., Lansing.

Butter fat.....	4.17 per cent.
Other fats.....	95.83 " "
Coloring.....	Foreign.

Artificially colored.**No. C-345. Sample from Peter Schuit, Grand Rapids.**

Butter fat.....	5.60 per cent.
Other fats.....	94.40 " "
Coloring.....	Foreign.

Artificially colored.**No. C-346. Sample from Wm. Killeen, Grand Rapids.**

Butter fat.....	3.03 per cent.
Other fats.....	96.97 " "
Coloring.....	Foreign.

Artificially colored.**No. C-347. Sample from Hilber & Goetz, Grand Rapids.**

Butter fat.....	5.20 per cent.
Other fats.....	94.80 " "
Coloring.....	Foreign.

Artificially colored.**No. C-348. Sample from F. J. Dettenthaler, Grand Rapids.**

Butter fat.....	5.93 per cent.
Other fats.....	94.07 " "
Coloring.....	Foreign.

Artificially colored.**No. D.-70. Sample from Lafer Bros., Detroit.**

Butter fat.....	9.63 per cent.
Other fats.....	90.37 " "
Coloring.....	Foreign.

Artificially colored.**No. G-404. Sample from Clarence Chrysler, Detroit.**

Butter fat.....	2.65 per cent.
Other fats.....	97.35 " "
Coloring.....	Foreign.

Artificially colored.**No. G-453. Sample from Schneider & Rademacher, Detroit.**

Butter fat.....	16.63 per cent.
Other fats.....	83.37 " "
Coloring.....	Foreign.

Artificially colored.**No. G-461. Sample from A. Parks & Son, Birmingham.**

Butter fat.....	3.81 per cent.
Other fats.....	96.19 " "
Coloring.....	Foreign.

Artificially colored.**No. G-481. Sample from Lafer Bros., Detroit.**

Butter fat.....	6.20 per cent.
Other fats.....	93.80 " "
Coloring.....	Foreign.

Artificially colored.

No. X-26. Sample from Casper Rinsey, Ann Arbor.

Butter fat.....	3.40 per cent.
Other fats.....	96.60 " "
Coloring.....	Foreign.

Artificially colored.

No. X-27. Sample from Lincoln Bros., Jackson.

Butter fat.....	4.27 per cent.
Other fats.....	95.73 " "
Coloring.....	Foreign.

Artificially colored.

No. Y-1. Sample from Morse Dry Goods Co., Grand Rapids.

Butter fat.....	4.34 per cent.
Other fats.....	95.66 " "
Coloring.....	Foreign.

Artificially colored.

PEPPER.

No. G-488. Sample of red pepper from Arthur J. Lane, Grand Rapids.

Sold (1898) by Ball-Barnhart-Putman Co., Grand Rapids.

Ash, less sand and gypsum.....	6.56 per cent.
Sand and gypsum.....	12.41 " "
Coloring.....	Foreign.

Adulterated with sand and gypsum and foreign coloring matter.

No. G-494. Sample of black pepper from L. Luikaart, Grand Rapids.

Sold (1898) by The J. P. Dieter Co., Chicago, Ill.

Producers, Quaker Spice and Extract Co., Chicago, Ill.

Ash.....	5.56 per cent.
Starch.....	32.14 " "
Piperine and resin.....	6.85 " "

Adulterated with wheat.

No. G-498. Sample of red pepper from T. Blink, Grand Rapids.

Ash.....	4.48 per cent.
Red saunders.....	12.00 " "
Ground red peppers.....	88.00 " "

Adulterated with red saunders.

No. G-509. Sample of ground pepper from Paul Dorff, Grand Rapids.

Sold (1898) by Musselman Grocer Co., Grand Rapids.

Ash.....	4.85 per cent.
Piperine and resin.....	4.82 " "

Adulterated with wheat.

No. G-515. Sample of pepper from Aug. Brogger, Grand Rapids.

(Old stock.)

Sold by Clark-Jewell-Wells Co., Grand Rapids.

Ash.....	6.04 per cent.
Starch.....	20.00 " "
Piperine and resin.....	3.08 " "

Adulterated with wheat.

No. G-521. Sample of red pepper from G. A. Metzger, Grand Rapids.
Sold (1898) by Wolverine Spice Co., Grand Rapids.

Ash, less sand and gypsum.....	6.78 per cent.
Sand and gypsum.....	12.37 " "
Coloring.....	Foreign.

Adulterated with sand, gypsum and foreign coloring matter.

VINEGAR.

No. A-197. Sample of cider vinegar from Huyck & Harris, Wayne.
Sold (1899).

Producer, Mrs. Arwood Morey, Wayne.

Specific gravity.....	1.0018.
Acid as acetic.....	2.28 per cent.
Total solids.....	1.29 " "
Ash.....	0.32 " "

Below the standard in solids and acid strength.

No. G-504. Sample of cider vinegar from Ulysses McCollum, Grand Rapids.
Sold (1898) by Freeman Wood, Englishville.

Specific gravity.....	1.0039.
Acid as acetic.....	1.80 per cent.
Total solids.....	1.83 " "
Ash.....	0.40 " "

Below standard in acid strength.

CHEESE FACTORIES.

Registered in Michigan with privilege to use the "Michigan Full Cream Cheese" brand from April 1, 1898, to April 1, 1899.

Name.	Location.	Post Office Address.	Brand No.
Arbela Cheese Co.	Arbela	Clio	1
Springdale Cheese Factory	Hopkins Station	Hopkins Station	8
Havens Cheese Factory	Bloomington	Bloomington	5
Zeeland Cheese Factory	Zeeland	Zeeland	7
Riverside Cheese Factory	Hopkins	Hopkins	8
Ransom Cheese Factory	Ransom	Ransom	9
Riverside Cheese Factory	Fairfield Twp	Adrian	10
Byron Cheese Factory	Elsie	Elsie	12
Frankentrost Cheese Co.	Kulmbach	Kulmbach	13
Saganing Cheese Co.	Standish	Standish	15
Base Line Factory	Bloomington	Bloomington	16
Tipton Cheese Co.	Tipton	Fairfield	19
Eaton Rapids Butter & Cheese Factory ..	Eaton Rapids	Eaton Rapids	20
Buena Vista Cheese Co.	Buena Vista	Saginaw, E. S.	21
Moline Cheese Co.	Moline	Moline	22
Spring Hill Cheese Factory	Hopkins Station	Hopkins Station	23
Lowell Cheese Factory	Lowell	Lowell	25
Vienna Cheese Factory	Clio	Clio	26
Hudson Center Cheese Factory	Hudson	Hudson	29
Lawndale Cheese Factory	Lawndale	Lawndale	30
Hartford Cheese Co.	Hartford	Hartford	32
Port Hope Cheese Factory	Port Hope	Port Hope	33
North Dorr Cheese Factory	North Dorr	North Dorr	35
Bay View Cheese Co.	Mitchell	Mitchell	36
Union Cheese Mfg. Co.	Frankenmuth	Frankenmuth	37
Juddville Cheese Factory	Judd's Corners	Judd's Corners	38
Liberty Cheese Factory	Liberty	Liberty	39
Fairfield Cheese Factory	Madison Twp	Fairfield	40
Grand Blanc Cheese Factory	Grand Blanc	Grand Blanc	41
Butternut Cheese Factory	Butternut	Butternut	45
Cass River Cheese Factory	Frankenmuth	Frankenmuth	46
Chapin Cheese Factory	Chapin	Chapin	47
Bonney Butter and Cheese Co.	Bonney	Bonney	48
Beddow Cheese Factory	Beddow	Beddow	49
Waltz Cheese Factory	Waltz	Waltz	50
Carleton Cheese Co.	Carleton	Carleton	51
Millington Cheese Mfg. Co.	Millington	Millington	52
Jones & Moyer	Grand Ledge	Grand Ledge	53
Cadmus Cheese Factory	Cadmus	Cadmus	54
Downington Cheese Factory	Downington	Downington	55
Excelsior Cheese Factory	Willis	Willis	56
Silverwood Cheese Factory	Silverwood	Silverwood	57
Remus Cheese Factory	Remus	Remus	58
Dundee Cheese Factory	Dundee	Dundee	59
Spring Brook Cheese Factory	N. Farmington	N. Farmington	60
Burton Cheese Factory	Burton Township	Flint	61
Camden Cheese Factory	Camden	Camden	62
Ogden Cheese Factory	Ogden Station	Ogden Station	63
Monitor Cheese Factory	Monitor	Monitor	64
Nuffer Bros' Cheese Factory	Amelith	Amelith	65

Registered Cheese Factories.—Concluded.

Name.	Location.	Post Office Address.	Brand No.
Willow Springs Cheese Factory.....	Kochville.....	Kochville.....	66
State Road Cheese Factory.....	Clio.....	Clio.....	67
Tuscola Cheese M'fg Co.....	Tuscola.....	Tuscola.....	68
Coldspring Cheese Factory.....	Hilliards.....	Moline.....	69
Brant Cheese Factory.....	Brant.....	Brant.....	70
West Branch Cheese Factory.....	W. Branch.....	W. Branch.....	71
Summit Cheese Factory.....	Jackson.....	Jackson.....	72
Vogel Center Cheese Factory.....	Vogel Center.....	Vogel Center.....	73
Michigan Cheese Factory.....	Mikado.....	Mikado.....	74
Michigan Cheese Factory.....	Long Rapids.....	Long Rapids.....	75

The "Michigan Full Cream Cheese" brand may be obtained upon application to the Dairy and Food Department, by giving the name and location of the factory, the name of the owner or manager, and the name of the person or persons at each factory authorized to use such brand, together with the required fee of one dollar. "No such brand shall be used upon other than full cream cheese or packages containing the same." Fee must be paid and registration made *each year* on or before April 1.

ABSTRACT OF LAWS.

The following synopsis of the laws enacted to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink, though not exhaustive or complete, will be found useful:

IN GENERAL.

(Act No. 193, Public Acts 1893, as amended by Act No. 118, Public Acts 1897.)

Peop'le vs. Snowberger, Michigan Supreme Court.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act is deemed a sale.

Under this statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled, "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredient injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled, "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee, must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—*Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.*

Extracts made of more than one principle must be labeled with the name of each principle, or else simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., *are strictly prohibited in this State.*

FABINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' package must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask, or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—Oleomargarine must not be sold in this State, *unless* free from coloration or ingredient that causes it to look like butter. Oleomargarine must be branded as such and stores, hotels, restaurants, boarding houses, etc., "shall have placed on the outside door and conspicuously hung in the center, and placed on the walls of any store or room where food is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, with the words 'Oleomargarine or butterine sold or used here.'"

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or Compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard" and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words, "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard, or cider vinegar.

CAUTION.

The trade is warned that the foregoing is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

BULLETIN NO. 43.

MARCH, 1899.

STATE OF MICHIGAN

DAIRY AND FOOD COMMISSION



BY AUTHORITY

LANSGING
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

OFFICE OF THE

MICHIGAN DAIRY AND FOOD COMMISSION

LANSING, MICHIGAN

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY
F. H. BORRADAILE,	-	-	-		STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD COMMISSION.

The Department has received many requests from members of the Legislature and others, for information relative to the present status of oleomargarine legislation in the different States, particularly that class of statutes known as anti-color laws.

In response to these inquiries we print in this issue of the Bulletin a short review of the subject.

Prof. William H. Hess, Assistant Instructor of Organic Chemistry of the University of Michigan, who has been making some scientific researches for the Department during the past year, contributes to this month's Bulletin an article on the distinction of true extract of vanilla from liquid preparations of vanillin.

We again call the attention of all proprietors of cheese factories, creameries and butter factories, where milk or cream is purchased of or contributed by three or more persons, to the provisions of the statute requiring them to register the name and location of such factory and the name of its owner or manager with this Department on or before the first day of April, or before engaging in business after that date.

Blanks upon which to make such registration will be furnished on application at this office.

mote the sale of its product in the very channels where its use will most imperil the health and lives of the children of our State. Can it be that the demands of commercial competition and love of gain warrant any human being to such despicable depths of deceit and falsehood?

The use of acid preservatives in milk is dangerous, and we question whether a chemist of repute can be found in the United States who would countenance its use in milk for the feeding of infants.

We warn the milk dealers of the State, many of whom in the past have used these preservatives, of the dangerous character of this practice.

The Department, through its dairy inspectors, will make a special effort this summer to detect the use of preservatives in milk sold for consumption, and we are determined that an arrest and prosecution will be made in each and every case found.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1898.

Cases pending July 1, 1898	39
Cases commenced since said date	40
Cases nolle prossed *	23

CASES DISPOSED 'OF.

Before Examining Magistrates	24	{ Defendants bound over to trial courts	8
		{ Defendants discharged on examination†	16
In Trial Courts	23	{ Defendants convicted	19
		{ Defendants acquitted	4
In Supreme Court	2	{ Conviction affirmed	1
		{ Conviction set aside	1
Cases pending May 1, 1899			16

PROCEEDINGS HAD DURING MONTH OF APRIL, 1899.

In the mandamus proceedings brought by the Department in the Circuit Court for the County of Washtenaw to compel the taking of a complaint in Justice Court in the city of Ann Arbor against Casper Rinsey, charged with having sold artificially colored oleomargarine, the Supreme Court on the 2nd ult. issued a writ of certiorari removing all proceedings to that Court for final adjudication. The matter was argued and submitted in said Court on the 4th inst.

The case pending in the Recorder's Court of the city of Detroit against Joseph F. Reaume, charged with having served oleomargarine without displaying the required signs, came up for trial on the 1st inst. before Judge Chapin and a jury. Defendant was acquitted.

In the case pending in the Recorder's Court of the City of Detroit against George Smith, defendant having been convicted of having served oleomargarine without displaying the required signs, the Court, on the 6th inst., imposed a fine of \$25.

* 20 oleomargarine case nolle prossed, Supreme Court having declared anti-color statute invalid.
† 15 oleomargarine cases.

In the case pending in the Recorder's Court of the city of Detroit against William L. McLeod, defendant having been convicted of having served oleomargarine without displaying the required signs, the Court, on the 6th inst., imposed a fine of \$25.

Complaint was made on the 7th inst. in Justice Court of the city of Lansing against John Robson, charged with having sold an imitation cream of tartar, as and for cream of tartar. Examination was held in part on the 11th inst. Further examination has been set for May 2d.

In the case pending in the Recorder's Court of the city of Detroit against Frank Barnard, defendant having been convicted of having served oleomargarine without displaying the required signs, the Court on the 7th inst. imposed a fine of \$25.

The cases pending in the Recorder's Court of the city of Detroit against Valentine Goldsmith and Fred Pilgrim, defendants being charged with having served oleomargarine without displaying the required signs, came up for trial on the 28th and 29th inst. before Judge Chapin and a jury. Defendants were acquitted.

INSPECTIONS.

The following places were visited during the month of April by the department's inspection force:

Rockwood, Adrian, Reading, Hillsdale, Hudson, Addison, Marshall, Albion, Ypsilanti, Concord, Jackson, Parma, Benton Harbor, Niles, Strassburg, Monroe, Detroit, Grand Rapids, Lansing, Mason, Eden, Leslie, Holt, Muir, Lyons, Ionia, St. Johns, Fenton, Gaines, Corunna, Ashley, Laingsburg, Durand, Bancroft, Perry, Kirby, Hazleton, Juddville.

DAIRY INSPECTION.

Report of dairies inspected during the month of April, 1899.

At Lake Odessa:

W. B. Smith—Condition of cows, clean; stables, clean; horse stable in connection; ventilation, good; water, well; milk room, clean; uses an aerator and a separator.

John McLeod—Condition of cows, part clean and part unclean; stables, unsanitary; water, well; sanitary conditions in general, poor.

At Nashville:

Frank McDerby—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions fair.

Daniel Clever—Condition of cows, generally clean; stables in poor condition; water from artificial pond and spring; sanitary conditions, poor; uses an aerator; sells milk to John Ackett.

At Flushing:

John Patton—Condition of Cows, generally clean; stables, fairly clean; ventilation, poor; water, well; sanitary conditions, poor

B. Turner—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, creek; sanitary conditions, poor.

At Hastings:

Carlir & Dryer—Condition of cows, unclean; ceilings of stable, dusty; horse stable in connection; ventilation, fair; water, spring; sanitary conditions in general, very poor; manure accumulated near stable; cows are not bedded; uses an aerator.

Morris Burton—Condition of cows, generally clean; stables, clean; horse stable in connection; ventilation, good; water, well; uses an aerator.

At Charlotte:

Frank Lavery—Condition of stables, fairly clean; ventilation, fair; water, well; sanitary conditions, poor; uses an aerator; uses a separator; drainage, poor.

A. C. Lane—Condition of cows, clean; stable has open scaffolding; ventilation, fair; water, spring; sanitary conditions in general, poor; manure accumulated near stable; milk strained in stable.

O. O'Leary—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor; milk strained in stable.

F. H. Beard—Condition of cows, clean; stables, unsanitary; water, well; sanitary conditions, poor.

L. M. Wood—Condition of cows, very clean; stables, fairly clean; ventilation, fair; water, well; supplies milk for Randall & Wood.

At Durand:

David A. Gardner—Condition of cows, clean; stables, clean; ventilation, fairly good; water, well; sanitary conditions, fair.

Albert Smith—Condition of cows, generally unclean; ventilation, good; water, well; sanitary conditions, poor.

F. J. Smith—Condition of cows, clean; stables, clean; ventilation fair; water, creek; sanitary conditions, fair; sells milk to A. Barlow.

Nathan M. Smith—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions in general, poor; manure accumulated in yard; pig-sty in stable.

G. S. Leetch & Son—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair; sells milk to A. Barlow.

At Ovid:

D. A. Hoyt—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor.

F. W. Allen—Condition of cows, part clean and part unclean; stables, drainage poor; water, well; sanitary conditions, poor; sells milk to A. R. Cummings.

L. S. Littlefield—Condition of cows, clean; stables, clean; ventilation, fairly good; water, creek; sanitary conditions, fair; sells milk to Chas. Covert.

Chas. Schoch—Condition of cows, clean; stables, clean; ventilation, fair; water, well.

The feeding of swill, brewery slops, dry, ripe corn husks straw and other food that has little or no substance left in it for nourishment and warmth, will eventually and surely lead to impoverished animals; milk poor in per cent of solids, and consequently high in the per cent of water, skin troubles, falling out of hair from the tail, scurvy and susceptibility to tuberculosis, and other dangerous diseases. The law prohibits the sale of milk produced from any cow fed upon the refuse of a distillery, or of a brewery, garbage, swill, or upon any substance that would depreciate the quality of the milk.

CHEMIST'S REPORT.

Lansing, Mich., April 30, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of April, 82 samples of food products have been examined, 41 being pure and 41 adulterated.

F. H. BORRADAILE,

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Baking powder.....	1	0	1
Butter.....	46	33	13
Candy.....	1	1	0
Cinnamon.....	1	0	1
Coffee extract.....	1	0	1
Cream of tartar.....	1	0	1
Extracts (flavoring).....	6	0	6
Ginger.....	2	1	1
Jelly.....	2	0	2
Lard.....	1	1	0
Milk.....	6	0	6
Mustard (dry).....	2	0	2
Mustard (prepared).....	1	0	1
Syrup, glucose.....	1	0	1
Pepper.....	6	3	3
Vinegar.....	4	2	2
Totals.....	82	41	41

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BAKING POWDER.

No. G-567. Sample from Martin E. Scott, Grand Rapids.
Sold (1899) by Daniel Lynch, Grand Rapids.
Producers, Daniel Lynch, Grand Rapids, Mich.

Bicarbonate of soda.....
Alum.....
Phosphate of lime.....
Corn starch.....

A mixture or compound. Package is not labeled with the name
and address of the manufacturer in legible type.

BUTTER.

No. I-40. Sample from Z. T. Allen, Arlington Hotel, Kalamazoo.
Reichert-Meissl number..... 0.60
Imitation butter.

No. I-44. Sample from Frank G. Whitney, New Commercial Hotel, Kalamazoo.
Reichert-Meissl number..... 2.24
Imitation butter.

No. I-45. Sample from Louis Ehiman, Western Hotel, Kalamazoo.
Reichert-Meissl number..... 0.12
Imitation butter.

No. I-49. Sample from Chas. Auerbach & Co., Restaurant, Kalamazoo.
Reichert-Meissl number..... 1.06
Imitation butter.

No. I-53. Sample from W. H. Conklin, Restaurant, Kalamazoo.
Reichert-Meissl number..... 0.97
Imitation butter.

No. I-55. Sample from A. J. Stowe, Hotel Ruhl, Kalamazoo.
Reichert-Meissl number..... 0.52
Imitation butter.

No. I-67. Sample from Geo. Sifford, Commercial House, Dowagiac.
Reichert-Meissl number..... 1.54
Imitation butter.

No. I-68. Sample from Chas. Whetstone, Forler House, Niles.		
Reichert-Meissl number		2.22
Imitation butter.		
No. I-69. Sample from John Farrod, Restaurant, Niles.		
Reichert-Meissl number		1.06
Imitation butter.		
No. I-70. Sample from G. Dolliver, Pike House, Niles.		
Reichert-Meissl number		1.30
Imitation butter.		
No. I-77. Sample from Mrs. E. Putnam, Central Restaurant, Niles.		
Reichert-Meissl number		1.06
Imitation butter.		
No. I-79. Sample from Robert Kennedy, Hotel Higbee, Benton Harbor.		
Reichert-Meissl number		0.24
Imitation butter.		
No. I-89. Sample from William Chrest, Restaurant, St. Joseph.		
Reichert-Meissl number		0.12
Imitation butter.		

CINNAMON.

No. G-571. Sample from Mrs. Cornelius Dogger, Grand Rapids.		
Sold (1898) by Edwin J. Gillies & Co., New York City.		
Producers, Edwin J. Gillies & Co., New York City.		
Ash		4.59 per cent.
Cassia .....		.....
Ginger .....		.....
Sugar .....		.....

Contains a small amount of cane sugar and a little ginger.

COFFEE.

No. G-575. Sample of "Essence Coffee" from Martin Van Westenbruggen, Grand Rapids.		
Sold (1899) by S. De Groot, Grand Rapids.		
Moisture		5.77 per cent.
Ash		4.34 " "

A mass of roasted chicory and cereals with burnt molasses. Contains no coffee. Not properly labeled.

CREAM OF TARTAR.

No. G-562. Sample from Chester B. Leonard, Lansing.		
Sold (1898) by J. F. Halladay & Son, Battle Creek.		
Cream of tartar		77.40 per cent.
Corn starch		4.69 " "
Acid phosphate of lime		9.25 " "
Water		8.66 " "

Adulterated with corn starch and acid phosphate of lime.

EXTRACTS.—(Flavoring.)

No. A-205. Sample "Pure Extract Banana," taken from original package, Hudson. Producers, Bastine & Co., New York.

Solid extract	9.18 per cent.
Sugar	-----
Alcohol	-----
Compound ethers	-----

An artificial preparation.

No. B-167. Sample "Artificial Extract Strawberry" from S. D. Pettys, East Cohoctah.

(Old stock.)

Producers, Lambert & Lowman, Detroit.

Solid extract	10.55 per cent.
Ash	0.04 " "
Glycerin	-----
Compound ethers	-----
Alcohol	-----
Artificial coloring	-----

An artificial preparation.

No. G.-555. Sample "Pure Concentrated Extract Vanilla" from R. B. Shank & Co., North Lansing.

Sold (1898) by G. A. Robertson, Lansing.

Producer, G. A. Robertson, Lansing.

Solid extract	14.20 per cent.
Ash	0.07 " "
Vanillin	0.078 " "
Coumarin	0.040 " "
Coloring	Artificial.

Adulterated with coumarin and artificially colored.

No. G.-558. Sample "Ethers, compounded to produce the flavor of banana," from Joseph H. Norris, North Lansing.

Sold (1899) by Northrup, Robertson & Carrier, Lansing.

Producers, Northrup, Robertson & Carrier, Lansing.

Solid extract	0.23 per cent.
Ash	0.01 " "
Compound ethers	-----
Alcohol	-----

An artificial preparation.

No. G-564. Sample "Dieter's Double Extract Vanilla" from David B. Haviland, Lansing.

Sold (1897).

Producers, The J. P. Dieter Co., Chicago, Ill.

Solid extract	15.20 per cent.
Ash	0.06 " "
Vanillin	0.008 " "
Coloring	Artificial.

Artificially colored.

No. G-576. Sample extract tonka and vanilla (Brand "Our Standard") from William Schuiling, Grand Rapids.

Sold (1899) by Daniel Lynch, Grand Rapids.

Producers, Wolverine Mfg. Co., Grand Rapids.

Solid extract.....	9.79 per cent.
Ash.....	0.06 " "
Vanillin.....	Trace.
Coumarin.....	0.022 " "
Coloring.....	Artificial.

Artificially colored.

GINGER.

No. G-561. Sample from Geo. F. Welden, Lansing.

Ash.....	' 3.78 per cent.
Starch.....	62.50 " "

Adulterated with corn meal.

JELLY.

No G-560. Sample of currant jelly from Mrs. Charles Schmidt, Lansing.

Sold (1899) by M. Seyfang & Co., Toledo, Ohio.

Producers, Seyfang & Co., Toledo, Ohio.

Water.....	45.82 per cent.
Ash.....	0.62 " "
Reducing sugar.....	27.42 " "
Sucrose.....	None
Starch paste.....	Present.
Coloring.....	Artificial

Imitation fruit jelly artificially colored.

No. G-565. Sample raspberry jelly (Brand "Clifford's") from Philip Kusterer, Grand Rapids.

Sold (1899) by H. J. Heinz Co., Chicago, Ill.

Water.....	26.11 per cent.
Ash.....	0.66 " "
Reducing sugar.....	50.00 " "
Sucrose.....	2.00 " "
Starch paste.....	Present.

Imitation fruit jelly.

MILK.

No. I-71. Sample from John Farrod, Restaurant, Niles.

Specific gravity.....	1.033
Water.....	89.68 per cent.
Total solids.....	10.32 " "
Milk fat.....	1.84 " "
Solids not fat.....	8.48 " "
Ash.....	0.84 " "

Below the standard in solids and milk fat.

No. I-74. Sample from R. F. Chambers, Saxe House, Niles.

Specific gravity	1.035	
Water	89.33	per cent.
Total solids	10.67	" "
Milk fat	1.45	" "
Solids not fat	9.22	" "
Ash	0.89	" "

Below the standard in solids and milk fat.

No. I-76. Sample from Mrs. D. A. Smith, Hotel 52, Niles.

Specific gravity	1.037	
Water	89.14	per cent.
Total solids	10.86	" "
Milk fat	1.11	" "
Solids not fat	9.75	" "
Ash	0.80	" "

Below the standard in solids and milk fat.

No. I-78. Sample from Robert Kennedy, Hotel Higbee, Benton Harbor.

Specific gravity	1.034	
Water	89.44	per cent.
Total solids	10.56	" "
Milk fat	1.62	" "
Solids not fat	8.94	" "
Ash	0.76	" "

Below the standard in solids and milk fat.

No. I-84. Sample from Charles Timm, Puritan Restaurant, Benton Harbor.

Specific gravity	1.036	
Water	88.62	per cent.
Total solids	11.38	" "
Milk fat	1.80	" "
Solids not fat	9.58	" "
Ash	0.81	" "

Below the standard in solids and milk fat.

No. I-90. Sample from William Chrest, Restaurant, St. Joseph.

Specific gravity	1.033	
Water	89.98	per cent.
Total solids	10.02	" "
Milk fat	1.34	" "
Solids not fat	8.68	" "
Ash	0.85	" "

Below the standard in solids and milk fat.

MUSTARD (Dry).

No. G-569. Sample from Arthur H. Watson, Grand Rapids.

Ash	4.06	per cent.
Wheat starch	23.44	" "
Mustard		

Adulterated with wheat starch.

No. G-572. Sample from Mrs. Cornelius Dogger, Grand Rapids.

Ash	5.02	per cent.
Mustard		
Coloring	Turmeric.	

Artificially colored.

MUSTARD (Prepared).

No. G-574. Brand "Holland Mustard" from Adrian Van Dussen, Grand Rapids.
Sold (1899) by J. Quartel, Grand Rapids.

Total solids.....	25.72 per cent.
Ash.....	3.89 " "
Mustard.....	
Vinegar.....	
Spices.....	

Not properly labeled.

PEPPER.

No. B-170. Brand "Eagle Mills Pure Ground Pepper." Sample from Moss & Myers Gaines.

Sold (1899) by Moran-Fitzsimons Co., Detroit.

Producers, Eagle Mills, Detroit.

Total ash.....	11.09 per cent.
Insoluble ash (silica).....	4.09 " "
Sulphate of lime.....	1.04 " "
Starch.....	14.42 " "
Crude fiber.....	26.80 " "
Ether extract.....	7.57 " "

Sample composed almost entirely of ground pepper hulls and contains an excessive amount of sand.

No. B-172. Sample from Z. V. Payne, Ashley.

Sold (1899) by Puhl, Webb & Co., Chicago, Ill.

Total ash.....	8.31 per cent.
Insoluble ash (silica).....	3.67 " "
Starch.....	31.93 " "
Ether extract.....	6.37 " "
Wheat starch.....	Present.

Adulterated with wheat and contains an excessive amount of sand.

No. G-577. Sample from Peter Philipsen, Grand Rapids.

Ash.....	4.30 per cent.
Starch.....	30.90 " "
Ether extract.....	4.45 " "
Wheat starch.....	Present.

Adulterated with wheat.

SYRUP.

No. G-554. Sample labeled "40% pure sugar, 60% glucose syrup," from Andrew Purcell Lansing.

Sold (1898) by C. W. Inslee & Co., Detroit.

Water.....	18.96 per cent.
Ash.....	1.94 " "
Reducing sugar before inversion.....	31.12 " "
Reducing sugar after inversion.....	43.56 " "
Sucrose by polariscope.....	11.80 " "

A glucose mixture. Not labeled properly.

VINEGAR.

No. G-559. Sample of cider vinegar from R. B. Shank & Co., Lansing.

Specific gravity.....	1.0016
Acid as acetic.....	1.56 per cent.
Total solids.....	2.32 " "
Ash.....	0.38 " "

Below the standard in acid strength.

No. G-573. Sample of cider vinegar from Ara D. Fisher & Co., Grand Rapids.

Sold (1899) by D. R. Parish, Grand Rapids.

Producer, D. R. Parish, Grand Rapids.

Specific gravity.....	1.0123
Acid as acetic.....	2.66 per cent.
Total solids.....	2.42 " "
Ash.....	0.52 " "

Below the standard in acid strength.

ABSTRACT OF LAWS.

The following synopsis of the laws enacted to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink, though not exhaustive or complete, will be found useful:

IN GENERAL.

(Act No. 193, Public Acts 1895, as amended by Act No. 118, Public Acts 1897.)

People vs. Snowberger, Michigan Supreme Court.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act is deemed a sale.

Under this statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or deprecate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingrediept has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredlents of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled, "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredient injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled, "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee, must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

BULLETIN NO. 45.

MAY, 1899.

STATE OF MICHIGAN

DAIRY AND FOOD COMMISSION



BY AUTHORITY

LANSING
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

OFFICE OF THE

MICHIGAN DAIRY AND FOOD COMMISSION

LANSING, MICHIGAN

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY
R. E. DOOLITTLE,	-	-	-		ASSISTANT STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD COMMISSION.

The delay in issuing this number of the Bulletin has been occasioned by a change in the laws authorizing the publication thereof. Under Act No. 44 of the Public Acts of 1899 the edition was limited to 2,000 copies, but by a subsequent enactment the Bulletin has been placed on its former basis. It was to bring this issue of the bulletin under the provisions of the last-named act that the date of publication has been delayed.

We publish in this month's Bulletin a treatise on Renovated or Process Butter by Professor C. B. Cochran, Analytical Chemist of the Department of Physics and Chemistry, Pennsylvania State Normal School.

WARNING TO MILK DEALERS.

By the terms of Act. No. 106 of the general laws of 1899, approved June 8th, 1899, and given immediate effect, the use of preservatives in milk intended to be sold and used for general consumption is prohibited. In exact language: "Section 1. No person shall offer or expose for sale, sell, exchange or deliver, or have in his possession with intent to sell, exchange or deliver, any milk to which water, chemicals or preservatives, or any other foreign substance, has been added. The term milk as used in this act shall include all skimmed milk, butter milk, cream and milk in its natural state, as drawn from the cow."

The act further provides a penalty for the violation thereof as follows: "Section 2. Whoever shall do any of the acts or things prohibited, or neglects or refuses to do any of the acts or things enjoined by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine of not less than one dollar nor more than one hundred dollars and the costs of the prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment, in the discretion of the court."

A great need was apparent in this State for such legislation, since the State Analyst's records show a constantly increasing growth of the use of acid preservatives in milk. For at least two years milkmen have been warned repeatedly through the columns of the Bulletin that the employment of preservatives to prevent the souring of milk was a violation of law. It was to do away with the questionable ability to convict under the old law that this late statute was passed.

We warn all dealers and milkmen, producers and peddlers that the provisions of this act prohibiting the use of preservatives in milk will be strictly enforced.

LIABILITY OF HOTEL, RESTAURANT AND BOARDING-HOUSE KEEPERS FOR SALES OF ADULTERATED FOODS.

The statutes of Michigan regulating the sale of food and drink products cover articles of food and drink served on the tables of hotels, restaurants and boarding houses to guests thereof paying for the same.

The department, through its inspectors, has made some investigations as to the purity of different articles of food and drink sold in this way, and, while such investigations show that a large per cent of those who supply food in this manner are honest and exercise proper care, others have been found whom the department has been obliged to prosecute, owing to their utter disregard of the law in these respects.

In this connection, we call the attention of all hotel, restaurant and boarding-house keepers to the provision of the law requiring those who serve oleo-margarine to post the required signs.

Under the statutes of Michigan, milk is deemed adulterated if below the statutory standard. The practice engaged in by some of serving milk that has been reduced below the statutory standard through skimming, either by removing the cream, or by placing the same in tanks and drawing the milk from the bottom thereof, is a violation of the law.

Those engaged in serving meals to persons paying for the same must furnish milk that is free from preservatives and is of the proper standard, and the responsibility rests on them to assure themselves that they purchase milk that complies with the law, and that it remains in that condition until served to their guests.

RENOVATED OR PROCESS BUTTER.

BY C. B. COCHRAN, M. A.

This butter is made by melting stale and unmarketable butter and separating the curd and water from the clear butter oil. This butter oil is then emulsified with milk or butter milk and again made into butter. The details of the process are said to differ greatly in the different factories. So far as I

have seen, however, the process of churning is entirely omitted. The melted and emulsified fat is simply congealed by contact with ice.

There seems to be no reasonable objection to the sale of this butter when sold for what it is, but it frequently, if not usually, appears on our markets under the name of fresh creamery butter. When sold under the latter name it commands a price which the majority of consumers would be very unwilling to pay if they knew the character of the article which they were buying.

To distinguish renovated butter from creamery butter the following tests will be found valuable:

1. Microscopic examination of the sample by means of polarized light both with and without a selenite plate.
2. Valenta test.
3. The Jean modification of the Valenta test.
4. Determination of the free fatty acids.
5. Reichert number.

The fat of renovated butter has a more or less crystalline structure, while the fat of pure fresh butter is devoid of any such appearance. If pure butter be examined microscopically with polarized light and selenite plate, the field will be uniformly colored in any position of the analyzer, while renovated butter will show a mottled, many-colored field. Without the selenite plate and with the analyzer in proper position, pure butter shows a dark field of almost uniform appearance. Renovated butter under similar conditions gives a dark field, mottled with white patches. Plate 1 shows the microscopic appearance of pure butter by polarized light. Plates 2 and 3 show the appearance of two samples of renovated butter under the same conditions of light and magnifying power. The peculiar appearance of renovated butter as seen by polarized light is due to the fact that the fat has been melted and in cooling has assumed a partially crystalline structure.

The completeness with which crystallization from fusion occurs and the size of the crystals depends on the slowness with which the melted substance cools to its solidifying point. The slower this change of temperature takes place the more perfect will the crystallization be. In renovated butter, on account of the great rapidity with which the melted fat is solidified, we get only an incipient crystallization.

If butter is melted and then allowed to cool slowly, large crystalline masses are formed, globular in shape and showing a distinct cross by polarized light. Plate 4 shows the microscopic appearance by polarized light of butter that has been melted and allowed to cool slowly. It is needless to say that this structure bears no resemblance to renovated butter.

The microscopic appearance of renovated butter is probably not conclusive evidence of its character, as a similar appearance may be shown in old butter, or in butter that has undergone alternations of softening and hardening by being exposed to temperature changes. In butter that has been rendered very soft and then slowly hardened, I have observed a field of somewhat variegated color with polarized light and the selenite plate, but without the selenite plate I have failed to obtain the distinct white patches that I have frequently seen in samples of renovated butter.

It is my opinion that butter does not very readily, under ordinary methods of treatment, assume a crystalline condition like that shown in renovated butter; and I am, therefore, inclined to attach considerable importance to the evidence obtained from microscopic examinations.

Oleomargarine possesses a crystalline structure much more marked than that

shown by renovated butter. Plate 16 shows the microscopic appearance of oleomargarine. Microscopic examination by polarized light furnishes valuable assistance in distinguishing fresh butter from old butter, renovated butter, butter substitutes or butter adulterated with fats that have been previously melted. Oleomargarine is composed of fats that have been melted, and the decidedly crystalline structure resulting from this fact is shown in the illustration.

The microscopic examination of butter and its adulterants by polarized light is very fully discussed in part first, Bulletin No. 13, United States Department of Agriculture, Division of Chemistry, published in 1897. Since that time the subject has been quite generally ignored by chemists, because chemical methods have been found to be more conclusive and more satisfactory. Since the advent of renovated butter upon our markets and the occasional finding of samples adulterated with small amounts of foreign fats the subject of examination of butters by microscopical methods will doubtless receive more attention.

In renovated butters the turpidity temperature, as shown by the Valenta test, is lower than usually found in fresh butter, and in the Jean modification of the Valenta test a greater amount of acetic acid is dissolved by fresh butter fat. Renovated butters also usually contain a high percentage of free fatty acids.

The following table shows results of examination of three samples of renovated butter, and for comparison the results of the same tests are given on a sample of fresh butter:

Number.	Sample.	Microscopic appearance.	Turbidity temperature Valenta test.	Acetic acid dissolved.	C. C. of normal alkali to neutralize 100 gms. fat.
1.....	Fresh butter..	Not crystalline	60°C.	70%	1.1 C. C.
2.....	Renovated butter.....	Crystalline	48.5°C.	100%	6.5 C. C.
3.....	Renovated butter.....	Crystalline	50°C.	100%	9.4 C. C.
4.....	Renovated butter.....	Crystalline	49°C.	100%	8.1 C. C.
5.....	Renovated butter.....	Crystalline	43.5°C.	.....	8.9 C. C.

Sample 4 was known to be renovated butter. The other samples, judging from analysis, I regard as also renovated butter.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1898.

Cases pending July 1, 1898.....	39
Cases commenced since said date.....	44
Cases nolle prossed *.....	23

CASES DISPOSED OF.

Before Examining Magistrates	29	{ Defendants bound over to trial courts.....	13
		{ Defendants discharged on examination.....	16
In Trial Courts.....	25	{ Defendants convicted	20
		{ Defendants acquitted	5
In Supreme Court.....	2	{ Conviction affirmed.....	1
		{ Conviction set aside	1
Cases pending June 1, 1899			18

PROCEEDINGS HAD DURING MONTH OF MAY, 1899.

Complaint was made on the 26th ult. in Justice Court in the city of Benton Harbor against Frank Brechenser, representing W. J. Quan & Co., of Chicago, Ill., charged with having sold an imitation cream of tartar for cream of tartar. On the 12th inst., defendant waived examination and was bound over to the Circuit Court for the County of Berrien for trial. On the same day defendant was arraigned in said Court and entered a plea of guilty. A fine of \$40.00 and costs was imposed by the court.

Complaint was made on the 26th ult. in Justice Court in the city of Benton Harbor against Sam C. Miller, representing Merriam, Collins & Co., of Chicago, Ill., charged with having sold an imitation cream of tartar for cream of tartar. On the 18th inst. defendant waived examination and was bound over to the Circuit Court for the County of Berrien for trial.

The case pending in the Circuit Court for the County of Jackson against Homer N. Strong, charged with having sold adulterated milk, being an appeal from a conviction in the Police Court of the city of Jackson, came up for trial on the 9th inst. before Judge Peck and a jury. Defendant was acquitted.

* 20 oleomargarine case nolle prossed, Supreme Court having declared anti-color statute invalid.
 † 15 oleomargarine cases.

The examination in the case pending in Justice Court of the city of Lansing against John Robson, charged with having sold an imitation cream of tartar for cream of tartar, was concluded on the 11th inst. Defendant was bound over to the Circuit Court for the County of Ingham for trial.

Complaint was made on the 27th inst. in Justice Court in the city of Muskegon against Hans Hansen, charged with having sold an imitation cream of tartar for cream of tartar. Defendant waived examination and was bound over to the Circuit Court for the County of Muskegon for trial.

Complaint was made on the 27th inst. in Justice Court in the city of Muskegon against J. Heathuis, charged with having sold adulterated mustard. Defendant waived examination and was bound over to the Circuit Court for the County of Muskegon for trial.

INSPECTIONS.

The following places were visited by the Department's inspection force during the month of May, 1899:

Muskegon, Newaygo, Fremont, Durand, Ashley, Alma, St. Louis, Ithaca, Easton, New Lothrop, Juddville, Parshallville, West Haven, Ionia, Saranac, Owosso, St. Charles, Saginaw, Midland, Chesaning, Sheridan, Fenwick, Lakeview, Edmore, Carson City, Butternut, Corunna, Grand Rapids, Detroit, Bay City, Saginaw, Jackson, Battle Creek, Monroe, Big Rapids, Woodville, Paris, Remus, Mecosta, Rodney, Morley, Hillsdale, Jonesville, Somerset Center, Jerome, Homer, Banckers, Brooklyn, Woodstock, Michigan Center.

DAIRY INSPECTION.

Report of dairies inspected during the month of May, 1899:

At Saginaw:

C. Mohs—Condition of cows, clean; stables, unclean; ventilation, fair; water, well; sanitary conditions in general, poor; milk strained in barn; manure allowed to accumulate near stable.

Chas. Wolgast—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, well; sanitary conditions, poor; manure allowed to accumulate near stable.

R. Marske—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, poor; water, well; sanitary conditions, poor.

Chas. F. Will—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; water, well; sanitary conditions, fair.

D. McDonald—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor.

H. Youmans—Condition of cows, clean; stables, clean; ventilation, good; water, lake; sanitary conditions, fair; yard, unclean.

John Thoms—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair.

Thomas Phoenix—Condition of cows, clean; stables, unsanitary; water, well; sanitary conditions, poor; yard, unclean; milk strained in barn.

N. Blanchard—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair; uses an aerator; yard unclean.

F. Bauer—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, well; sanitary conditions in general, poor; pig-sty adjacent to stable.

Miles Rouse—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions, poor.

S. L. Wiggins—Condition of cows, generally clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions in general, poor; milk strained in stable; manure allowed to accumulate near stable.

A. Wentl—Condition of cows, clean; stables, fairly clean; ventilation, good water, well; sanitary conditions, poor; manure accumulated near stable.

Henry Rohring—Condition of cows, clean; water, well; yard unclean; sanitary surroundings, poor.

Edward Proux—Condition of cows, clean; stable, clean; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor.

Geo. Brewer—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, well; sanitary conditions, poor.

Fred Heitman—Condition of cows, clean; stables, very clean; horse stable in connection; ventilation, good; water, city; sanitary conditions in general, fair.

N. E. Albertie—Condition of cows, clean; stables, ceilings dusty; horse stable in connection; ventilation, fairly good; water, well; sanitary conditions in general, poor; milk strained in stable.

Harry Dare—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, poor; water, city; sanitary conditions, poor.

At Owosso:

W. Williams—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; water, well; sanitary conditions, poor; milk room adjoining stable; sells milk to the Chapel dairy.

Lewis Bock—Condition of cows, generally clean; stables, one stable unsanitary and the other in poor condition; water, well; sanitary conditions, poor; milk room in fair condition; sells milk to J. D. Priest,

S. S. Miner—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, spring; sanitary conditions, poor; sells milk to the Millerd dairy; yard unclean.

R. Bigelow—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; water, well and river; sanitary conditions, poor; yard unclean; milk room in stable; sells milk to the Osmer Bros.

G. M. Getman—Condition of cows, clean; stables, clean; one has cement floor; ventilation, fairly good; water, well; sanitary conditions, fairly good; yard, reasonably clean; sells milk to Osmer Bros.

At Lansing:

Chas. Everett—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; water, well; sells milk to W. H. Hunter; milk room in fair condition; uses an aerator.

G. W. Wolford—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor; sells milk to the Winans dairy; yard reasonably clean; drainage imperfect.

Foster Bro.—Condition of stables, unsanitary; ventilation, poor; water, well; sanitary conditions in general, poor; yard reasonably clean; sells milk to L. Jewell.

Dale Bro.—Condition of cows, clean; stable clean, partially whitewashed; ventilation, fairly good; water, well; sanitary conditions, fairly good; yard reasonably clean; milk room remote; farm barn has cement floor and is in good condition; uses an aerator.

G. Oppenlander—Condition of cows, clean; stables, floor clean, ceiling dusty; drainage, poor; horse stable in connection; water, creek; sanitary conditions, poor; milk strained in barn; sells milk to the Keeler dairy.

C. L. Seeley—Condition of cows, clean; stable, fairly clean; ventilation,

good; water, well; sanitary conditions, fair; milk room remote from barn, and has cement floor.

C. D. Woodbury—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor; milk strained in barn; cooling tank in stable; sells milk to the Keeler dairy.

Jos. Risley—Condition of cows, clean; stables, unclean; ventilation, fair; water, well; sanitary conditions, poor; milk room remote from barn and is in fair condition; has cement floor; manure accumulated in yard.

J. Ashworth & Son—Condition of cows, clean; stable, fairly clean; horse stable in connection; ventilation, poor; water, spring; sanitary conditions, poor; yard reasonably clean.

Norman Downer—Condition of stables, very clean; ventilation, good; water, well; sanitary conditions in general, fair; uses an aerator; milk room clean and has cement floor; yard reasonably clean.

H. H. Walker—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions, poor; milk strained in barn; yard unclean; sells milk to the Swift dairy.

J. E. Banghart—Condition of cows, clean; stables clean; ventilation, fairly good; water, well; yard unclean; sells milk to the Swift dairy; uses disinfectants in stable.

W. L. Whipple—Condition of cows, clean; stables clean; horse stable in connection; ventilation, fairly good; water, creek and well; sanitary conditions, poor; milk room in barn; yard reasonably clean.

W. L. Smith—Condition of cows, clean; stables, partially whitewashed, and reasonably clean; ventilation, fairly good; water, well; sanitary conditions, poor; a foul accumulation of manure near barn; milk room remote from barn and in fair condition, but location poor.

W. H. Hunter—Condition of cows, clean; stables, very clean; stable whitewashed; horse stable connected with part of stable; ventilation, good; water, well; sanitary conditions, fairly good; uses an aerator; yard clean; has a clean, airy milk room remote from barn.

CHEMIST'S REPORT.

Lansing, Mich., May 31, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of May, 133 samples of food products have been examined, 60 being pure and 73 adulterated.

R. E. DOOLITTLE,
Assistant State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Breakfast Food (wheat).....	2	2	0
Butter.....	57	32	25
Cloves.....	1	1	0
Cocoanut.....	1	1	0
Cream of tartar.....	17	5	12
Extracts (flavoring).....	12	4	8
Ginger.....	2	1	1
Maple Syrup.....	1	1	0
Milk.....	16	3	13
Mustard (dry).....	8	3	5
Mustard (prepared).....	1	1	0
Pepper.....	6	5	1
Phosphate or Tartar.....	1	0	1
Rye Flour.....	1	1	0
Vinegar.....	7	0	7
Totals.....	133	60	73

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUTTER.

No. G—598. Sample from consumer, Detroit.	
Reichert-Meissl number.....	1.29
Oleomargarine.	
No. G—616. Sample from William H. Mann, Restaurant, Bay City.	
Reichert-Meissl number.....	0.23
Oleomargarine.	
No. I-99. Sample from H. W. Melenbacher, Clarendon Hotel, Grand Rapids.	
Reichert-Meissl number.....	0.47
Oleomargarine.	
No. I-101. Sample from D. Stonehouse, Restaurant, Grand Rapids.	
Reichert-Meissl number.....	0.47
Oleomargarine.	
No. I-103. Sample from Densmore & Neikirk Restaurant, Grand Rapids.	
Reichert-Meissl number.....	0.53
Oleomargarine.	
No. I-104. Sample from Mart Crawford, The Globe Restaurant, Grand Rapids.	
Reichert-Meissl number.....	0.71
Oleomargarine.	
No. I-105. Sample from Mrs. J. C. Nelson, Restaurant, Grand Rapids.	
Reichert-Meissl number.....	0.60
Oleomargarine.	
No. I-106. Sample from Mrs. A. J. Eggleston, Grand Rapids.	
Reichert-Meissl number.....	0.59
Oleomargarine.	
No. I-107. Sample from A. L. Crawford, Hotel and Restaurant, Grand Rapids.	
Reichert-Meissl number.....	0.59
Oleomargarine.	
No. I-109. Sample from W. O. Foote, Monarch Restaurant, Grand Rapids.	
Reichert-Meissl number.....	0.95
Oleomargarine.	

- No. I-110. Sample from B. Allen, Restaurant, Grand Rapids.
 Reichert-Meissl number 0.23
Oleomargarine.
- No. I-112. Sample from Sam Riesbaugh, Blue Front Restaurant, Grand Rapids.
 Reichert-Meissl number 0.59
Oleomargarine.
- No. I-114. Sample from H. Mason, West Side Restaurant, Grand Rapids.
 Reichert-Meissl number 1.54
Oleomargarine.
- No. I-116. Sample from Mrs. C. Muckle, Restaurant, Grand Rapids.
 Reichert-Meissl number 0.47
Oleomargarine.
- No. I-119. Sample from J. R. Johnson, Eagle Hotel, Grand Rapids.
 Reichert-Meissl number 0.36
Oleomargarine.
- No. I-123. Sample from Hodge & Tracey, Hotel Columbus, South Haven.
 Reichert-Meissl number 0.24
Oleomargarine.
- No. I-131. Sample from William H. Mann, Restaurant, Bay City.
 Reichert-Meissl number 0.12
Oleomargarine.
- No. I-132. Sample from T. B. McArthur, Restaurant, Bay City.
 Reichert-Meissl number 0.36
Oleomargarine.
- No. I-136. Sample from Mrs. Margaret R. Fordon, Fordon House, Bay City.
 Reichert-Meissl number 0.12
Oleomargarine.
- No. I-138. Sample from Roger Smith, New Savoy Dining Hall, Bay City.
 Reichert-Meissl number 0.23
Oleomargarine.
- No. I-149. Sample from Wiser & Killinger, Restaurant, Bay City.
 Reichert-Meissl number 0.12
Oleomargarine.
- No. I-154. Sample from Chas. Holden, Holden Restaurant, E. Saginaw.
 Reichert-Meissl number 0.12
Oleomargarine.
- No. I-157. Sample from John Zimmerman, Restaurant, Saginaw, E. S.
 Reichert-Meissl number 0.12
Oleomargarine.
- No. I-158. Sample from Chas. Nash, Restaurant, Saginaw, E. S.
 Reichert-Meissl number 0.12
Oleomargarine.

No. I-159. Sample from H. Naegely, Hotel, Saginaw, E. S.

Reichert-Meißl number..... 0.23
Oleomargarine.

CREAM OF TARTAR.

No. A—212. Sample taken from original package at Battle Creek.

Producer, J. H. Bell & Co., Chicago, Ill.

Cream of tartar.....	96.16 per cent.
Acid phosphate of lime.....	0.47 " "
Sulphate of lime.....	0.78 " "
Corn starch.....	

Contains small amount of corn starch, acid phosphate of lime and sulphate of lime.

No. A—213. Sample (Brand "Strictly Pure 99%") from the Battle Creek Creamery Co., Battle Creek.

Sold (1899) by Godsmark, Durand & Co., Battle Creek.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	31.25 per cent.
Acid phosphate of lime.....	15.81 " "
Sulphate of lime.....	27.13 " "
Alum (anhydrous).....	11.31 " "
Water.....	14.50 " "

Imitation cream of tartar.

No. B—180. Sample (Brand "Strictly Pure 99%") from Wm. C. McKinzie, Saginaw, E. S.

Sold (1899) by Phipps, Penoyer & Co., Saginaw.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	26.79 per cent.
Acid phosphate of lime.....	12.08 " "
Sulphate of lime.....	22.85 " "
Alum (anhydrous).....	20.07 " "
Water.....	18.21 " "

Imitation cream of tartar.

No. C—336. Sample from original package at Battle Creek.

Producer, J. E. Bell & Co., Chicago, Ill.

Cream of tartar.....	97.93 per cent.
Acid phosphate of lime.....	0.18 " "
Sulphate of lime.....	0.42 " "
Corn starch.....	Trace.

Contains small amounts of corn starch, acid phosphate of lime and sulphate of lime.

No. G—566. Sample from William Killeen, Grand Rapids.

Sold by G. T. Hann, Grand Rapids.

Cream of tartar.....	79.93 per cent.
Acid phosphate of lime.....	6.69 " "
Sulphate of lime.....	5.48 " "
Corn starch and water.....	7.90 " "

Adulterated with the phosphate and sulphate of lime and corn starch.

No. G—582. Sample (Brand "Strictly Pure 99%") from Geo. S. Mitchell, Leslie.
Sold (1899) by Robson Bros., Lansing.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar	None.
Corn starch	26.79 per cent.
Acid phosphate of lime	21.17 " "
Sulphate of lime	20.93 " "
Alum (anhydrous)	14.65 " "
Water	16.47 " "

Imitation cream of tartar.

No. G—599. Sample (Brand "Strictly Pure 99%") from William Walther, Bay City.
Sold (1899) by Meisel & Goeschel, Bay City.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar	None.
Corn starch	28.12 per cent.
Acid phosphate of lime	13.34 " "
Sulphate of lime	22.27 " "
Alum (anhydrous)	20.40 " "
Water	15.87 " "

Imitation cream of tartar.

No. G—600. Sample (Brand "Strictly Pure 99%") from Watkins & Crawford, Bay City.

Sold (1899) by Gustin, Cook & Buckley, Bay City.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar	None.
Corn starch	29.60 per cent.
Acid phosphate of lime	16.05 " "
Sulphate of lime	20.14 " "
Alum (anhydrous)	23.40 " "
Water	10.81 " "

Imitation cream of tartar.

No. G—601. Sample (Brand "Strictly Pure") from Fred Hamme, Bay City.
Sold (1899) by Hilker & Bletsch, Cincinnati, Ohio.

Producer, Hilker & Bletsch, Cincinnati, Ohio.

Cream of tartar	47.16 per cent.
Corn starch	6.39 " "
Acid phosphate of lime	23.32 " "
Sulphate of lime	10.47 " "
Alum (anhydrous)	1.10 " "
Water	11.56 " "

Adulterated with corn starch, alum, phosphate and sulphate of lime.

No. G—611. Sample (Brand "Strictly Pure 99%") from Clark & Palmer, Bay City.
Sold (1898) by Gustin, Cook & Buckley, Bay City.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar	None.
Corn starch	27.04 per cent.
Acid phosphate of lime	17.91 " "
Sulphate of lime	20.07 " "
Alum (anhydrous)	23.40 " "
Water	11.58 " "

Imitation cream of tartar.

No. G-612. Sample from John D. Whalen, Bay City.
Sold (1899) by Meisel & Goeschel, Bay City.

Cream of tartar.....	None.
Corn starch.....	28.12 per cent.
Acid phosphate of lime.....	14.94 " "
Sulphate of lime.....	28.49 " "
Alum (anhydrous).....	14.75 " "
Water.....	14.20 " "

Imitation cream of tartar.

No. K-11. Sample from Hans Hansen, Muskegon.

Cream of tartar.....	None.
Corn starch.....	12.23 per cent.
Acid phosphate of lime.....	51.61 " "
Sulphate of lime.....	23.42 " "
Water.....	11.74 " "

Imitation cream of tartar.

EXTRACTS.—(Flavoring.)

No. A-206. Sample extract vanilla and tonka (Brand "Rival") from Edgumbe & Sons, Benton Harbor.

Producer, Durand & Kasper, Chicago, Ill.

Solid extract.....	14.43 per cent.
Ash.....	0.14 " "
Vanillin.....	0.043 " "
Coumarin.....	0.016 " "
Coloring.....	Caramel.

Artificially colored.

No. A-209. Sample extract of vanilla (Brand "Regular") from G. C. Ebbert, Brooklyn.

Sold (1899) by The Church & McConnell Co., Toledo, Ohio.

Producer, Royal Remedy & Extract Co., Dayton, Ohio.

Solid extract.....	16.64 per cent.
Ash.....	0.19 " "
Vanillin.....	0.016 " "
Coloring.....	Artificial.

Artificially colored.

No. A-210. Sample extract of vanilla (Brand "Quaker") from John Chlebus, Jackson.

Producer, Quaker Extract Co., Chicago, Ill.

Solid extract.....	8.08 per cent.
Ash.....	0.08 " "
Vanillin.....	Trace.
Coloring.....	Artificial.

Artificially colored.

No. B-159. Sample of artificial strawberry flavor from H. B. McLaughlin, Vernon.
(Sold 1899).

Producer, Seeley Mfg. Co., Detroit.

Solid extract.....	0.05 per cent.
Ash.....	0.01 " "
Compound ethers.....	-----
Alcohol.....	-----

A mixture of compound ethers and alcohol.

No. B-179. Sample artificial strawberry flavor from Hall Bros., Owosso.
Sold (1899).

Producer, Seeley Mfg. Co., Detroit.

Solid extract.....	0.06 per cent.
Ash.....	0.009 " "
Alcohol.....	-----
Compound ethers.....	-----
Artificial coloring.....	-----

An artificial preparation.

No. B-181. Sample artificial banana flavor from Edward Mann, Saginaw.
Sold (1899).

Producer, Seeley Mfg. Co., Detroit.

Solid extract.....	0.50 per cent.
Ash.....	0.03 " "
Alcohol.....	-----
Compound ethers.....	-----
Artificial coloring.....	-----

An artificial preparation.

No. G-579. Sample extract nectarine (Brand "Pure Concentrated") from Will C. Walter, Mason.

Sold (1899) by Foote & Jenks, Jackson.

Producers, Foote & Jenks, Jackson.

Solid extract.....	0.60 per cent.
Ash.....	0.008 " "
Alcohol.....	-----
Compound ethers.....	-----
Artificial coloring.....	-----

An artificial preparation.

No. G-594. Sample of extract of pineapple from Edwin L. Pierce, Grand Rapids.
Sold (1899) by Peck Bros., Grand Rapids.

Solid extract.....	0.37 per cent.
Ash.....	0.01 " "
Alcohol.....	-----
Compound ethers.....	-----
Artificial coloring.....	-----

An artificial preparation.

GINGER.

No. G.-580. Sample of ginger from Geo. H. Leverett, Mason.

Ash.....	5.00 per cent.
Starch.....	57.40 " "
Corn.....	Present.

Adulterated with corn meal.

MILK.

No. I-94. Sample from Mrs. M. Wagner, Restaurant, Marshall.

Specific gravity.....	1.035
Water.....	89.66 per cent.
Total solids.....	10.34 " "
Milk fat.....	1.30 " "
Solids not fat.....	9.04 " "
Ash.....	0.86 " "

Below the standard in solids and milk fat.

No. I-130. Sample from William H. Mann, Restaurant, Bay City.

Specific gravity.....	1.035		
Water.....	88.26	per cent.	
Total solids.....	11.74	"	"
Milk fat.....	2.27	"	"
Solids not fat.....	9.47	"	"
Ash.....	0.84	"	"

Below the standard in solids and fat.

No. I-134. Sample from A. L. Livingston, Arlington House, West Bay City.

Specific gravity.....	1.034		
Water.....	90.45	per cent.	
Total solids.....	9.55	"	"
Milk fat.....	0.97	"	"
Solids not fat.....	8.58	"	"
Ash.....	0.77	"	"

Below the standard in solids and milk fat.

No. I-135. Sample from Goodwin Bros., Fraser House, Bay City.

Specific gravity.....	1.036		
Water.....	90.17	per cent.	
Total solids.....	9.83	"	"
Milk fat.....	0.78	"	"
Solids not fat.....	9.05	"	"
Ash.....	0.80	"	"

Below the standard in solids and milk fat.

No. I-139. Sample from W. H. Saltonstall, Hotel Vincent, Saginaw.

Specific gravity.....	1.028		
Water.....	92.10	per cent.	
Total solids.....	7.90	"	"
Milk fat.....	0.43	"	"
Solids not fat.....	7.47	"	"
Ash.....	0.70	"	"

Below the standard in solids and fat.

No. I-140. Sample from Louis Buinin & Son, Hotel Everett, Saginaw.

Specific gravity.....	1.024		
Water.....	91.65	per cent.	
Total solids.....	8.35	"	"
Milk fat.....	1.85	"	"
Solids not fat.....	6.50	"	"
Ash.....	0.77	"	"

Below the standard in solids and fat.

No. I-141. Sample from Farnham Lyon, Hotel Bancroft, Saginaw.

Specific gravity.....	1.033		
Water.....	88.77	per cent.	
Total solids.....	11.23	"	"
Milk fat.....	2.28	"	"
Solids not fat.....	8.95	"	"
Ash.....	0.80	"	"

Below the standard in solids and milk fat.

No. I-145. Sample from Martin Baum, Sherman House, Saginaw.

Specific gravity.....	1.035		
Water.....	88.91	per cent.	
Total solids.....	11.09	"	"
Milk fat.....	1.59	"	"
Solids not fat.....	9.50	"	"
Ash.....	0.79	"	"

Below the standard in solids and fat.

No. I-146. Sample from A. H. Roberts, Restaurant, Saginaw, E. S.

Specific gravity.....	1.034		
Water.....	89.44	per cent.	
Total solids.....	10.56	"	"
Milk fat.....	1.77	"	"
Solids not fat.....	8.79	"	"
Ash.....	0.78	"	"

Below the standard in solids and milk fat.

No. I-148. Sample from Ben S. Lucas, Ferguson House, Saginaw, E. S.

Specific gravity.....	1.0122		
Water.....	91.00	per cent.	
Total solids.....	9.00	"	"
Milk fat.....	3.04	"	"
Solids not fat.....	5.96	"	"
Ash.....	0.68	"	"

Below the standard in solids.

No. I-151. Sample from Mrs. A. Prochnow, Restaurant, Saginaw, E. S.

Specific gravity.....	1.023		
Water.....	90.56	per cent.	
Total solids.....	9.44	"	"
Milk fat.....	3.16	"	"
Solids not fat.....	6.28	"	"
Ash.....	0.70	"	"

Below the standard in solids.

No. I-152. Sample from Mrs. A. O'Donnel, Restaurant, Saginaw, E. S.

Specific gravity.....	1.034		
Water.....	88.02	per cent.	
Total solids.....	11.98	"	"
Milk fat.....	2.84	"	"
Solids not fat.....	9.14	"	"
Ash.....	0.80	"	"

Below the standard in solids and milk fat.

No. I-155. Sample from Chas. Holden, Holden Restaurant, Saginaw.

Specific gravity.....	1.034		
Water.....	89.65	per cent.	
Total Solids.....	10.35	"	"
Milk fat.....	1.39	"	"
Solids not fat.....	8.96	"	"
Ash.....	0.78	"	"

Below the standard in solids and milk fat.

MUSTARD (Dry).No. G-584. Sample from Orra Chadwick, Grand Rapids.
Sold (1899) by Sherman Bros, Chicago, Ill.

Ash.....	6.69	per cent.	
Mustard.....			
Coloring.....			Turmeric.

Artificially colored.

No. G-586. Sample from Heine Van Derwal, Grand Rapids.
Sold by Ball-Barnhart-Putnam Co., Grand Rapids.

Ash	3.23 per cent.
Wheat starch	45.00 " "
Mustard	
Coloring	Artificial.

Adulterated with wheat starch and artificially colored.

No. G-587. Sample from Romke Fisher, Grand Rapids.
Sold (1898) by Daniel Lynch, Grand Rapids.

Ash	6.00 per cent.
Wheat starch	10.82 " "
Mustard	

Adulterated with wheat starch.

No. G-589. Sample from Cora E. Rogers, Grand Rapids.
Sold (1899) by Mrs. Agnes Dunn, Grand Rapids.

Ash	4.55 per cent.
Starch	43.91 " "
Mustard	
Coloring	Turmeric.

Adulterated with wheat starch and artificially colored.

No. K-12. Sample of ground mustard from J. Heethuis, Muskegon.

Ash	3.90 per cent.
Wheat starch	11.43 " "
Mustard	
Coloring	Turmeric.

Adulterated with wheat starch and artificially colored.

PEPPER.

No. B-174. Sample of ground pepper (Brand "Strictly Pure") from Obert Bros., Durand.
Sold 1899.

Producer, E. W. Gillett, Chicago, Ill.

Total ash	10.00 per cent.
Insoluble ash (silica)	4.60 " "
Starch	32.14 " "
Ether extract	6.85 " "

Contains an excessive amount of sand.

PHOSPHATE OR TARTAR.

No. K-5. Sample from Han Hansen, Muskegon.
Sold (1899) by Franklin MacVeagh & Co., Chicago, Ill.

Corn Starch	12.23 per cent.
Acid phosphate of lime	52.34 " "
Sulphate of lime	23.88 " "
Water	11.55 " "

Is neither phosphate or tartar.

VINEGAR.

No. G-581. Sample of cider vinegar from R. Lland A. Fay, Eden.

Sold (1899) by Julius W. Chapin, Eden.

Producer, Julius W. Chapin, Eden.

Specific gravity.....	1.0101
Acid as acetic.....	3.43 per cent.
Total solids.....	2.57 " "
Ash.....	0.35 " "

Below the standard in acid strength.

No. G-593. Sample of cider vinegar from John Moll, Grand Rapids.

Sold by Olney & Judson Grocery Co., Grand Rapids.

Producers, Robinson Cider & Vinegar Co., Benton Harbor.

Specific gravity.....	1.0101
Acid as acetic.....	3.36 per cent.
Total solids.....	1.37 " "
Ash.....	0.32 " "

Below the standard in solids and acid strength.

No. G-604. Sample of distilled vinegar from McLeod & Friebe, Bay City.

Sold (1898) by Dahinden & Gallasch, Milwaukee, Wis.

Producer, Dahinden & Gallasch, Milwaukee, Wis.

Specific gravity.....	1.0046
Acid as acetic.....	2.59 per cent.
Total solids.....	0.20 " "
Ash.....	0.04 " "

Below the standard in acid strength.

No. G-607. Sample of distilled vinegar from Joe M. Grace, Bay City.

Sold (1899) by Walsh, Tanner & Daily, West Bay City.

Produced by Squire, Dingee & Co., Chicago, Ill.

Specific gravity.....	1.0056
Acid as acetic.....	3.60 per cent.
Total solids.....	0.39 " "
Ash.....	0.03 " "

Below the standard in acid strength.

No. G-610. Sample of distilled vinegar from William Koch, Bay City.

Producer, Squire, Dingee & Co., Chicago, Ill.

Specific gravity.....	1.0078
Acid as acetic.....	4.25 per cent.
Total solids.....	0.43 " "
Ash.....	0.04 " "
Color.....	Caramel

Artificially colored.

No. G-621. Sample of cider vinegar from Albert Adams, Bay City.

Sold (1899) by Gustin, Cook & Buckley, Bay City.

Producer, The Watson & Gordon Vinegar Co., Detroit.

Specific gravity.....	1.0138
Acid as acetic.....	3.89 per cent.
Total solids.....	2.44 " "
Ash.....	0.36 " "

Below the standard in acid strength.

No. K-13. Sample of vinegar from Mrs. Marie Bourassa, Muskegon.

Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Specific gravity.....	1.0050
Acid as acetic.....	3.09 per cent.
Total solids.....	0.20 " "
Ash.....	0.02 " "
Coloring.....	Caramel.

Distilled vinegar below the standard in acid strength and artificially colored.

ABSTRACT OF LAWS.

The following synopsis of the laws enacted to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink, though not exhaustive or complete, will be found useful:

IN GENERAL.

(Act No. 193, Public Acts 1895, as amended by Act No. 118, Public Acts 1897.)

Peop'e vs. Snowberger, Michigan Supreme Court.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act is deemed a sale.

Under this statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled, "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredient injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled, "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee, must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pic in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING *Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.*

Extracts made of more than one principle must be labeled with the name of each principle, or else simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., *are strictly prohibited in this State.*

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' package must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask, or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—Oleomargarine must not be sold in this State, *unless* free from coloration or ingredient that causes it to look like butter. Oleomargarine must be branded as such and stores, hotels, restaurants, boarding houses, etc., "shall have placed on the outside door and conspicuously hung in the center, and placed on the walls of any store or room where food is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, with the words 'Oleomargarine or butterine sold or used here.'"

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or Compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard" and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words, "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard, or cider vinegar.

CAUTION.

The trade is warned that the foregoing is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

BULLETIN NO. 46.

JUNE, 1899.

STATE OF MICHIGAN

DAIRY AND FOOD COMMISSION



BY AUTHORITY

LANSING
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

OFFICE OF THE

MICHIGAN DAIRY AND FOOD COMMISSION

LANSING, MICHIGAN

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD COMMISSION.

The department has in preparation and will issue about the 15th inst. a compilation of the Dairy and Food Laws of the State of Michigan, with the amendments thereto passed at the last session of the Legislature.
Copies of the same may be had upon application to this office.

The annual report of this Department for the fiscal year ending June 30, 1899, will be ready for distribution in about thirty days.

We publish with this issue of the bulletin a supplement containing a list of the Cheese Factories, Creameries and Butter Factories registered with the Department for the registration year commencing April 1, 1899.
Copies of the same may be had upon application.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1898.

Cases pending July 1, 1898.....	39
Cases commenced since said date.....	47
Cases nolle prossed *.....	25

CASES DISPOSED OF

Before Examining Magistrates	29	{ Defendants bound over to trial courts.....	13
		{ Defendants discharged on examination†....	16
In Trial Courts.....	25	{ Defendants convicted	20
		{ Defendants acquitted	5
In Supreme Court.....	2	{ Conviction affirmed.....	1
		{ Conviction set aside	1
Cases pending July 1, 1899			16

PROCEEDINGS HAD DURING THE MONTH OF JUNE, 1899.

Complaint was made on the 12th inst. in justice court of the city of Muskegon, against C. H. Camp, representing W. J. Quan & Co., of Chicago, charged with having sold adulterated vinegar. Defendant was arraigned and entered a plea of not guilty. Trial set for July 18th.

Complaint was made on the 20th inst. in justice court of the city of Caro, against Phipps, Penoyer & Co., of Saginaw, charged with having sold an imitation cream of tartar for cream of tartar. On the 30th inst. defendants were arraigned and entered a plea of not guilty. Examination set for July 7th.

* 20 oleomargarine cases nolle prossed, Supreme Court having declared anti-color statute invalid.
† 15 oleomargarine cases.

INSPECTIONS.

The following places were visited during the month of June by the Department's inspection force:

Detroit, Bay City, West Bay City, Banks, Salzberg, Essexville, Adrian, Byron, Birch Run, Clio, Flint, Vernon, East Cohoctah, Cohoctah Center, Oak Grove, Deer Creek, Argentine, Linden, Bancroft, Durand, Owosso, Pewamo, Wattertown, Hubbardston, Maple Rapids, St. Johns, Ovid, Sturgis, Quincey, Bronson, Gilead, East Gilead, Bethel, Hillsdale, Big Rapids, Traverse City, Whitehall, Sullivan, Ravenna, Cadillac, Petoskey, Grand Haven, Leoni, Dexter, Ann Arbor, Whitmore Lake, Coldwater, Burr Oak, Colon, Sherwood, Pittsford, Hillsdale, Holland.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of June, 1899:

At Lansing:

J. D. Waite—Condition of cows, clean; stables, fairly clean, horse stable in connection; ventilation, fair; water, well; sanitary conditions poor.

C. A. Clement—Condition of cows, clean; stables, floors clean, ceiling dusty; ventilation, fairly good; water, well; sells milk to E. Carl Bank.

Arthur Fleming—Condition of cows, clean; cows are not stabled; water, creek and well.

H. Preston—Condition of cows, clean; stables, fairly clean, horse stable in connection; ventilation, fairly good; water, well; sanitary conditions poor; manure allowed to accumulate in yard; sells milk to E. Carl Bank.

O. V. Reeves—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; water, river and well; sanitary conditions, poor; yard unclean.

G. C. Fuller—Condition of cows, clean; stables, fairly clean, horse stable in connection; ventilation, good; water, well; sanitary conditions poor; sells milk to Winans Bros.

C. P. Everett—Condition of cows, clean; stables, unclean; ventilation, fair; water, well; sanitary conditions, poor; sells milk to W. H. Hunter.

E. Carl Bank—Condition of cows, clean; stables, clean; ventilation, fair; water well; sanitary conditions, fair; uses an aerator.

A. D. Bank—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor; yard unclean; milk room has cement floor, and in fairly good condition.

R. Walker—Condition of cows, clean; stables, clean; ventilation, fair; water, well; sells milk to E. Carl Bank.

James Slocum—Condition of cows, clean; stables, fairly clean; drainage, poor; ventilation, fair; water, well; sanitary conditions, poor; milk room remote from barn and has cement floor.

I. Burrell—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, well.

L. W. Reeves—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, fair; milk room in fair condition.

Irvin Fogg—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, spring and river; sanitary conditions, poor; sells milk to the Vallean dairy.

T. E. Vallean—Has new stable not completed; water, river; cows are not stabled.

At Saginaw :

Jos. Ahrens—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair.

L. Kettellhohon—Condition of cows, clean; stables, clean; pig sty adjoining stable, which causes foul odor in stable; ventilation, good; water, well; sanitary conditions in general, poor.

Samuel Shattuck—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions in general, fair.

O. Devers—Condition of cows, clean; stables, very clean; ventilation, good; water, well; sanitary conditions in general, fair.

H. Stilderede—Condition of cows, clean; water, well; sells milk to H. Barland; cows are not stabled.

Chas. Muhlanback—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions, fair.

Chas. Croose—Condition of stables, unsanitary; chickens kept in stable; water, well; sanitary conditions, poor.

John Cook—Condition of cows, clean; stables, clean; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor; yard unclean.

J. J. Dillrich—Condition of cows, clean; stables, clean; ventilation, good; water, well; yard, unclean.

E. Prueter—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor; yard, unclean.

E. H. Ranous—Condition of cows, clean; stables, very clean; horse stable in connection; ventilation fair; water, well; sanitary conditions, poor; yard unclean.

Peter Bender—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair; yard, reasonably clean.

J. W. Dietrich—Condition of cows, clean; stables, clean; ventilation, good; water well; yards unclean.

L. Schuler—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, well; sanitary conditions, poor.

Stephen Luckermader—Condition of cows, clean; stables fairly clean; ventilation, good, water, well; sanitary conditions fair.

Saginaw Dairy Co.—Stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor; was feeding beer malt; manure allowed to accumulate near stable.

J. W. Winkler—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, fair.

C. Ahrens—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair.

P. Cole—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions, poor; yard, unclean; sells milk to the Edwards dairy.

Albert Young—Condition of cows, clean; stables, clean; horse stable in connection; ventilation, poor; water, well; sells milk to the Edwards dairy.

Geo. Phoenix—Condition of cows, clean; cows are not stabled; feeds beer malt.

Arthur Edwards—Condition of cows, clean; are not stabled; water, creek; surroundings, unsanitary.

Mrs. D Gamm—Condition of cows, part clean and part unclean; stables, unclean; horse stable in connection; ventilation, fair; water, well; sanitary conditions in general, poor; manure allowed to accumulate against stable.

Arthur Kenne—Condition of cows, clean; water, city; cows are not stabled.

John Everett—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, well; sanitary conditions, poor.

J. P. Nuerminger—Condition of cows, clean; stables, fairly clean; horse stable in connection; ventilation, fair; water, well; sanitary conditions, poor; yard, unclean; sells milk to G. G. Smith.

Geo. Seidel—Condition of cows, clean; water, well; cows are not stabled; sells milk to the Schram dairy.

O. Seidel—Condition of stables, unclean; ventilation, poor; water, well; sanitary conditions, poor; sells milk to the Schram dairy.

J. P. Seidel—Condition of cows, clean; stables, unclean; ventilation, poor; water, well; sanitary conditions, poor; sells milk to G. G. Smith.

John Blank—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions, fair; uses an aerator; sells milk to the Campau dairy.

W. W. Williams—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fair; sells milk to the Campau dairy.

M. M. Kinney—Condition of cows, clean; stables, clean; ventilation, good; water, river; sanitary conditions, fair.

Robert Grasshauser—Condition of cows, clean; stables, very clean; ventilation, fair; water, well; sells milk to J. J. Dietrich; yard unclean.

Ezra Fry—Condition of cows, clean; stables clean; horse stable in connection; ventilation, good; water, well.

A. G. Dorr—Condition of cows, clean; stables, floors clean; ceiling dusty; ventilation, fairly good; water, well.

E. Simon—Condition of cows, clean; stables, clean; horse stable in connection; ventilation, fairly good; water, well and river; sanitary conditions, poor; sells milk to Albert Young.

Chas. Bolderbuck—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, poor; manure allowed to accumulate near stable.

M. Mannin—Condition of cows, clean; stables, very clean; ventilation, good; water, well; yard, unclean.

John Volz—Condition of cows, clean; stables, very clean; ventilation fairly good; water, well; sanitary conditions, fair; yard unclean.

Wm. Opitz—Condition of cows, clean, water, well; surroundings, unsanitary.

J. C. Volz—Condition of cows, clean; stables, very clean; horse stable in connection; ventilation, good; water, well; yard, unclean.

R. Weidenmiller—Condition of cows, clean; stables, ceiling dusty; ventilation poor; water, well; sanitary conditions, poor; manure allowed to accumulate against stable.

P. Fisher—Condition of cows, clean; stables, very clean; ventilation, fairly good; water, well; sanitary conditions, fair; yard, reasonably clean.

F. J. Koch—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well.

Henry Derker—Condition of cows, clean; stables, floors clean; ceiling, dusty; ventilation, fair; water, well; sanitary conditions, poor; yard, reasonably clean; sells milk to the Averill dairy.

Thomas Gardson—Condition of cows, clean; stables, clean; ventilation, fair; water, well; yard, unclean; supplies milk to H. Borland.

Mrs. F. Magow—Condition of cows, clean; are not stabled; water, well; surroundings, unsanitary.

A. W. Winterstein—Condition of cows, clean; stables, fairly clean; ventilation, poor; water well; sanitary conditions, poor.

John Horigan—Condition of cows, clean, water, well; is building a new stable.

J. Averill—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, creek; sanitary conditions, poor; yard, unclean.

Jas. Hickey—Condition of cows, clean; stables, clean; ventilation, fair; water, well; yard, unclean.

Jas. Fisher—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, fair.

D. Mustard—Condition of cows, clean; water, well; cows are not stabled.

L. Waldo—Condition of cows, clean; water, well; cows are not stabled.

At Kalamazoo:

J. Gibbs—Condition of cows, good; stables, clean; ventilation, good; water, well; sanitary conditions in general, good; sells milk to A. W. Church.

H. E. Ralston—Condition of cows, clean; stables, clean; ventilation, fair; water, well; sanitary conditions in general, good; uses an aerator; uses a separator.

James Anderson—Condition of cows, good; stables, fairly clean; water, well; sanitary conditions in general, good; uses an aerator; sells milk to P. G. Tuckey.

Geo. Buckham—Condition of cows, good; stables, clean; water, well; ventilation good; sanitary conditions in general, good.

D. D. Streaton—Condition of cows, good; stables, clean; ventilation, good; water well; sanitary conditions in general, good; milk room, fairly clean; uses an aerator and a separator; sells bottled milk and cream.

Lou Gilbert—Condition of cows, fairly good; stables, fairly clean; water, spring; yards, clean and dry; uses an aerator; milk room, clean and neat; sells milk to N. E. Buck.

W. H. Scott—Condition of cows, good; stables, fairly clean; ventilation, fairly good; water, spring; drainage, good; uses an aerator and a separator.

Verne Gilbert—Stables, fairly clean; water well and spring; yard, unclean; milk room, clean; uses an aerator.

C. Beckley—Condition of cows, good; stables, very clean; yard, fairly clean; ventilation, good; water, well; milk house, very clean; uses an aerator; sanitary conditions in general, very good.

J. M. Burt—Condition of cows, good; stables, clean; water, well; sanitary conditions in general, good.

W. E. Buzzard—Condition of cows, good; stables, clean; water, well; milk room, clean, uses an aerator; sanitary conditions in general, good.

G. W. Cranmer—Condition of cows, good; stables, clean; yard, clean; water, spring; uses an aerator; sells milk to L. A. Olmstead.

J. W. Struble—Condition of cows, good; stables, unclean; water, spring; sanitary conditions in general, fairly good.

H. E. Washburn—Condition of cows, good; stables, fairly clean; water, well; milk house, clean; uses an aerator; sanitary conditions in general, good.

Mrs. J. Rausch—Condition of cows, good; stables, clean; water, creek; sanitary conditions in general, good.

W. B. Vosberg—Condition of cows, good; stables, clean; yard, clean; water, well; sanitary conditions in general, good; sells milk to F. P. Tuckey.

S. L. Beardsley—Condition of cows, fair; stables, fairly clean; water, well and spring; sanitary conditions in general, good; milk house neat and clean; uses an aerator; sells milk to William Fisher.

Carl Hudson—Condition of cows, good; stables, clean; yard dry and fairly clean; water, well; sanitary conditions in general, good; sells milk to DeVies.

John Schlobohn—Conditions of cows, good; stables, clean; manure accumulated in yard; water, well; sanitary conditions in general, good.

C. E. Lewis—Condition of cows, good; stables, clean; water, well; sanitary conditions in general, good; sells milk to Star Creamery.

Cheney Bros.—Condition of cows, good; stables, very clean; water, well; sanitary conditions in general, good; milk room, neat; sell milk to DeVies, Fisher and F. P. Tuckey.

Banett Bros.—Condition of cows, good; stables, very clean; water, well; milk room clean and neat.

T. M. Robe—Condition of cows, good; stables, fairly clean; yard, unclean; water, spring; sanitary conditions in general, fairly good; uses a separator; sells milk to City Creamery.

Stoddard Dairy—Condition of cows, good; stables, fairly clean; water, spring; sanitary conditions in general, good.

Frank C. Balch—Condition of cows, good; stables, clean; has model barn; water, spring; sanitary conditions in general, good; milk room, very clean; uses an aerator and a separator.

D. N. McGregor—Condition of cows, good; stables, fairly clean; water, well; sanitary conditions in general, good; sells milk to D. A. Cook.

R. B. McCarty—Condition of cows, good; stables, fairly clean; yard, clean; water, well; milk room clean; sells milk to Dunn.

W. Ware—Condition of cows, good; stables, clean; water, spring; sanitary conditions in general, good; sells milk to City Creamery.

W. G. DeWaters—Condition of cows, good; stables, fairly clean; water, well; sanitary conditions in general, good; sells milk to Wilbur Gray.

O. H. Duxtater—Condition of cows, good; stables, fairly clean; yard, unclean; water, well.

F. S. Nichols—Condition of cows, good; stables fairly clean; yard unclean; water, well; sanitary conditions in general, good; sells milk to Duxtater.

L. C. Kendall—Condition of cows, good; stables, unclean; yard, unclean; water, well; sells milk to L. N. Rix.

Harley Cavanaugh—Condition of cows, good; stables, fairly clean; manure accumulated in yard; water, well; sells milk to L. N. Rix.

L. J. Henderson—Condition of cows, good; stables, clean; yard clean; sanitary conditions in general, good; milk house, very clean; uses an aerator; sells milk to Baker.

S. C. Gibbs—Condition of cows, good; stables, very clean; yard, clean; water, well; milk house clean, and has cement floor.

Chas. Davis—Condition of cows, good; stables, dirty; yard, clean; water, well; sanitary conditions very clean.

Rea Bros.—Condition of cows, good; stables, fairly clean; yard unclean; water, well; uses an aerator.

J. W. Cutter—Condition of cows, good; stables, fairly clean; yard, clean; water, well; general surroundings, neat and clean.

Geo. N. Drake—Condition of cows, good; stables, fairly clean; yard, clean; ventilation, fair; water, well; sells milk to Warren Kendall.

J. E. Pease—Condition of cows, good; stables, fairly clean; yard, fairly clean; water, spring; general surroundings, neat; sells milk to Creamery.

At Dowagiac:

Fiew & Dillman—Condition of cows, good; stables, clean; yards, fairly clean; milk room clean and neat; uses an aerator.

David Brenner—Condition of cows, good; stables, fairly clean; yards, dry and clean; water, creek.

Mark Anthony—Condition of cows, fairly good; stables, fairly clean; milk room neat and clean; uses an aerator.

H. C. Carter—Condition of cows, good; stables, fairly clean; milk house, neat and clean; uses an aerator.

M. H. Burton—Condition of cows, good; stables, clean; yards, clean; water, well; milk room, very clean; uses an aerator and a separator.

Randolph Allen—Condition of cows, good; stables, clean; yards and general surroundings neat and clean; uses an aerator; sells milk to Ely.

D. T. Cushing—Condition of cows, good; stables, fairly clean; yards, dry and clean; water, well.

CHEMIST'S REPORT.

Lansing, Mich., June 30, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of June, 161 samples of food products have been examined, 94 being pure and 67 adulterated.

R. E. DOOLITTLE,

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	2	0	2
Butter.....	16	10	6
Cinnamon.....	11	3	8
Cloves.....	1	0	1
Coffee.....	2	1	1
Corn (canned).....	1	1	0
Cream of tartar.....	7	1	6
Extracts (flavoring).....	19	6	13
Ginger.....	3	2	1
Jelly.....	8	2	6
Maple Syrup.....	1	1	0
Milk.....	7	3	4
Milk (for preservatives).....	47	47	0
Molasses.....	2	2	0
Mustard (dry).....	6	2	4
Mustard (prepared).....	1	0	1
Peas (canned).....	1	0	1
Pepper.....	10	6	4
Vinegar.....	16	7	9
Totals	161	94	67

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

ALLSPICE.

No. G-605. Sample from Nelson Emery, Bay City.
 Sold (1899) by W. I. Brotherton & Co., Bay City.
 Producer, Robert G. Thomas, New York.

Total ash.....	9.12 per cent.
Insoluble ash, sand.....	2.05 " "
Starch.....	35.15 " "

Adulterated with cooked wheat starch.

No. K-20. Sample from Peter Van Duin, Grand Haven.

Total ash.....	6.29 per cent.
Insoluble ash, sand.....	2.39 " "
Starch.....	31.96 " "
Corn.....	Present.

Adulterated with corn meal.

BUTTER.

No. I-161. Sample from John McLeod, Holzheimer Hotel, Saginaw.

Reichert-Meissl number.....	0.12
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Oleomargarine.

No. I-164. Sample from James McCrale, Pacific Hotel, Saginaw.

Reichert-Meissl number.....	0.12
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Oleomargarine.

No. I-172. Sample from Chas. P. and Oscar C. Downey, Downey House, Lansing.

Reichert-Meissl number.....	0.37
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Oleomargarine.

No. I-173. Sample from I. N. Brown, Butler House, Lansing.

Reichert-Meissl number.....	0.23
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Oleomargarine.

No. I-177. Sample from Frank Wentworth, Wentworth House, Lansing.

Reichert-Meissl number.....	0.12
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Oleomargarine.

No. I-179. Sample from Robert M. Renner, Hotel New Grand, Lansing.

Reichert-Meissl number.....	0.47
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Oleomargarine.

CINNAMON.

No. A-220. Sample from Rose & Ginsberg, Paris.
(Sold 1899.)

Producer, W. F. McLaughlin & Co., Chicago, Ill.

Total ash.....	6.10 per cent.
Insoluble ash, sand.....	0.65 " "
Starch.....	38.00 " "

Adulterated with cooked wheat starch.

No. A-226. Sample from J. Coykendall, Bronson.
Sold (1898) by Berdan & Co., Toledo, Ohio.

Total ash.....	9.96 per cent.
Insoluble ash, sand.....	5.15 " "

Contains an excessive amount of sand.

No. G-629. Sample from Engelbert R. Fisher, Bay City.
Sold (1898) by Meisel & Goeschel, Bay City.

Ash.....	3.58 per cent.
Starch.....	41.66 " "
Corn meal.....	-----
Cooked wheat starch.....	-----
Red saunders.....	-----
Ground cassia.....	-----

Adulterated with red saunders, corn meal and cooked wheat starch.

No. G-643. Sample of cinnamon, Brand "Pure," from Adam Kaiser, West Bay City.
Sold (1899) by Walsh, Tanner & Daily, West Bay City.
Producer, D. R. James & Bros., New York City.

Ash.....	4.65 per cent.
Ground Cassia.....	-----
Cane sugar.....	-----

Sample contains small amount of cane sugar.

No. K-2. Sample from John Watson & Co., Muskegon.
Sold (1898) by Puhl-Webb Co., Chicago, Ill.

Ash.....	5.76 per cent.
Starch.....	30.61 " "

Ground cassia adulterated with bread crumbs.

No. K-21. Sample from F. D. Glazier, Whitehall.
Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Total ash.....	6.00 per cent.
Insoluble ash, sand.....	1.07 " "
Starch.....	27.44 " "

Adulterated with cooked wheat starch.

No. K-22. Sample from Boot & Kramer, Holland.
Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Ash.....	3.42 per cent.
Starch.....	40.18 " "
Cooked wheat starch.....	-----
Ground cassia.....	-----

Adulterated with cooked wheat starch.

No. K-26. Sample of cinnamon from L. B. Bellaire, Cadillac.
Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Ash.....	4.27 per cent.
Ground cassia.....	
Cooked wheat starch.....	

Adulterated with cooked wheat starch.

COFFEE.

No. A-207. Brand "Chichorien Kaffee" from C. W. Ran, Strassburgh.
Sold (1899) by Lee & Cady, Detroit.

Producer, E. B. Mueller & Co.

Total ash.....	7.08 per cent.
Insoluble ash (sand).....	2.70 " "

Sample consists of roasted chicory cemented into a roll. Contains no coffee.

CLOVES.

No. G-632. Sample from Engelbert R. Fischer, Bay City.
Sold (1898) by Meisel & Goeschel, Bay City.

Total ash.....	7.92 per cent.
Sand and sulphate.....	4.81 " "
Starch.....	33.09 " "

Adulterated with cooked wheat starch.

CREAM OF TARTAR.

No. G-626. Sample "Pure Cream of Tartar" from John D. Arnold, Bay City.
Sold (1898) by Hilker & Bletsch, Cincinnati, Ohio.

Producer, Hilker & Bletsch, Cincinnati, Ohio.

Cream of tartar.....	47.16 per cent.
Corn starch.....	6.38 " "
Acid phosphate of lime.....	23.32 " "
Sulphate of lime.....	10.47 " "
Alum (anhydrous).....	1.10 " "
Water.....	11.57 " "

Adulterated with corn starch, alum, and phosphate and sulphate of lime.

No. G-627. Brand "Strictly Pure 99%" from Henry Schust, Saginaw.
Sold (1899) by Phipps, Penoyer & Co., Saginaw.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	13.50 per cent.
Acid phosphate of lime.....	24.60 " "
Sulphate of lime.....	21.76 " "
Alum (anhydrous).....	17.20 " "
Water.....	22.94 " "

An imitation cream of tartar.

No. G-628. Sample (Bakers' Cream of Tartar) from Mrs. Mary M. Curry, East Saginaw.

Sold (1899) by Chapman & Smith Co., Chicago, Ill.

Producer, Chapman & Smith Co., Chicago, Ill.

Cream of tartar.....	None.
Corn starch.....	23.44 per cent.
Acid phosphate of lime.....	44.40 " "
Sulphate of lime.....	18.60 " "
Water.....	13.56 " "

An imitation cream of tartar.

No. G-631. Sample from Engelbert R. Fischer, Bay City.

Sold (1899) by Meisel & Goeschel, Bay City.

Cream of tartar.....	None.
Corn starch.....	14.60 per cent.
Acid phosphate of lime.....	25.20 " "
Sulphate of lime.....	28.40 " "
Alum (anhydrous).....	14.00 " "
Water.....	17.80 " "

An imitation cream of tartar.

No. G-642. Brand "Strictly Pure 99%" from Mrs. Wm. H. Adams, West Bay City.

Sold (1898) by Gustin, Cook & Buckley, Bay City.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	14.42 per cent.
Acid phosphate of lime.....	19.90 " "
Sulphate of lime.....	11.09 " "
Alum (anhydrous).....	32.76 " "
Water.....	21.83 " "

An imitation cream of tartar.

No. G-644. Brand "Strictly Pure 99%" from August Voisine, West Bay City.

Sold (1899) by Meisel & Goeschel, Bay City.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	18.13 per cent.
Acid phosphate of lime.....	11.23 " "
Sulphate of lime.....	17.32 " "
Alum (anhydrous).....	35.96 " "
Water.....	17.36 " "

An imitation cream of tartar.

EXTRACTS.—(Flavoring.)

No. A-223. Sample extract vanilla (Brand "Perfection") from Ed. O. Rathvon, Mecosta.

Sold (1899) by Chapman & Smith Co., Chicago, Ill.

Producer, Saxon Extract Co., Chicago, Ill.

Solid extract.....	10.67 per cent.
Ash.....	0.03 " "
Vanillin.....	0.044 " "
Coumarin.....	0.183 " "
Coloring.....	Artificial.

Adulterated with coumarin and artificially colored.

No. A-224. Sample extract of vanilla (Brand "Regular") from F. A. Wagner, Quincy.

Sold (1899) by Berdan & Co., Toledo, Ohio.

Producer, Royal Remedy & Extract Co., Dayton, Ohio.

Solid extract.....	20.14 per cent.
Ash.....	0.17 " "
Vanillin.....	0.013 " "
Coloring.....	Artificial.

Artificially colored.

No. A-225. Sample of strawberry extract from C. H. Halleck, Quincy.

Sold (1898).

Producer, Seeley Manufacturing Co., Detroit.

Solid extract.....	0.05 per cent.
Alcohol.....	.....
Compound ethers.....	.....
Coloring.....	Artificial.

An artificial preparation.

No. B-183. Sample of extract of banana (Brand "Pure Concentrated Extract of Banana") from H. O. Watkins, Chesaning.

Sold (1899) by Symons Bros. & Co., Saginaw.

Producer, Grant's Specialty Co., Detroit.

Solid extract.....	14.58 per cent.
Glycerine.....	.....
Alcohol.....	.....
Compound ethers.....	.....

An artificial preparation.

No. B-188. Sample extract of banana from M. L. Gerrard, Butternut.

(Old Stock.)

Solid extract.....	3.05 per cent.
Glycerine.....	.....
Alcohol.....	.....
Compound ethers.....	.....
Artificial coloring.....	.....

An artificial preparation.

No. G-592. Sample compound extract of vanilla from Chas. McCool, Grand Rapids.

Sold (1899) by Peck Bros., Grand Rapids.

Producer, Peck Bros., Grand Rapids.

Solid extract.....	1.00 per cent.
Ash.....	0.08 " "
Vanillin.....	0.036 " "
Coumarin.....	0.084 " "

Adulterated with coumarin.

No. G-603. Sample extract vanilla (Brand "Saxon Perfection") from John D. Whalen, Bay City.

Sold by Chapman & Smith Co., Chicago, Ill.

Producer, Saxon Extract Co., Chicago, Ill.

Solid extract.....	9.01 per cent.
Ash.....	0.19 " "
Vanillin.....	0.016 " "
Coumarin.....	0.020 " "
Coloring.....	Artificial.

Adulterated with coumarin and artificially colored.

No. G-609. Brand "Concentrated Extract of Vanilla and Tonka" from Frederick C. Hering, Bay City.

Sold (1898) by Edwin J. Gillies & Co., New York City.

Producer, Crescent Extract Co., New York City.

Solid extract.....	15.23 per cent.
Ash.....	0.02 " "
Vanillin.....	Trace.
Coumarin.....	0.045 " "
Coloring.....	Artificial.

Artificially colored.

No. G-618. Sample of vanilla (Brand "Michigan") from Max Berling, Bay City.

Sold (1899) by The Avery Preserving Co., Detroit.

Producer, Caldwell-Hicks Mfg. Co., Detroit.

Solid extract.....	24.00 per cent.
Ash.....	0.30 " "
Vanillin.....	0.88 " "
Coloring.....	Artificial.

Artificially colored.

No. K-6. Sample extract of vanilla from John J. Bither, Muskegon.

Sold (1899) by Geo. Hume & Co., Muskegon.

Solid extract.....	2.94 per cent.
Ash.....	0.07 " "
Vanillin.....	Trace.
Coumarin.....	0.024 " "
Coloring.....	Artificial.

Adulterated with coumarin and artificially colored.

No. K-14. Brand "Rival Extract Vanilline and Tonka" from Pearson Bros. & Co. Fremont.

Sold (1899) by Durand & Kasper Co., Chicago, Ill.

Producer, Durand & Kasper Co., Chicago, Ill.

Solid extract.....	14.45 per cent.
Ash.....	0.14 " "
Vanillin.....	0.040 " "
Coumarin.....	0.077 " "
Coloring.....	Artificial.

Contains artificial vanillin and is artificially colored.

No. K-15. Brand "Extract Tonka and Vanilla" from Vallier Grocer Co., Fremont.

Sold (1899) by R. W. Snyder, Battle Creek.

Producer, R. W. Snyder, Battle Creek.

Solid extract.....	19.65 per cent.
Ash.....	0.06 " "
Vanillin.....	0.090 " "
Coumarin.....	0.116 " "
Coloring.....	Artificial.

Artificially colored.

No. K-25. Brand "Kenwood Compound Extract Vanilla and Tonka" from W. E. Haney, Big Rapids.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Producers, Reid, Murdock & Co., Chicago, Ill.

Solid extract.....	13.05 per cent.
Ash.....	0.12 " "
Vanillin.....	Trace.
Coumarin.....	0.116 " "
Coloring.....	Artificial.

Artificially colored.

GINGER.

No. G-588. Sample from Cora E. Rogers, Grand Rapids.
Sold (1899) by Mrs. Agnes Dunn, Grand Rapids.

Ash	3.65 per cent.
Starch	68.60 " "
Corn	Present.

Adulterated with corn meal.

JELLY.

No. A-221. (Brand "New England Sugar Jelly") from Frank Steinke, Big Rapids.
Sold (1899).

Producer, Chapman & Smith Co., Chicago, Ill.

Water	28.92 per cent.
Ash	0.36 " "
Sucrose by polariscope	29.32 " "
Reducing sugar before inversion	31.64 " "
Reducing sugar after inversion	52.34 " "
Color	Artificial.

Imitation fruit jelly artificially colored.

No. B-182. (Brand "Heinz Strawberry Jelly") from Edward Mann, Saginaw.
Sold (1899) by Symons Bros. & Co., Saginaw.

Water	24.88 per cent.
Ash	0.56 " "
Sucrose by polariscope	13.13 " "
Reducing sugar before inversion	32.05 " "
Reducing sugar after inversion	52.80 " "
Color	Artificial.

Imitation fruit jelly artificially colored.

No. G-597. Sample of currant flavored jelly (Brand "Bakers' Delight") from Christie Bros., Detroit.

Sold (1899) by Ward L. Andrus & Co., Detroit.

Water	30.95 per cent.
Ash	0.45 " "
Sucrose by polariscope	4.18 " "
Reducing sugar before inversion	30.96 " "
Reducing sugar after inversion	33.78 " "
Coloring	Artificial.

Imitation fruit jelly artificially colored.

No. G-608. (Brand "Cruikshank's Quince Jelly") from Kelly & Co., Bay City.
Sold (1898) by Cruikshank Bros. & Co., Allegheny, Pa.

Producers, Cruikshank Bros. & Co., Allegheny, Pa.

Water	25.11 per cent.
Ash	0.27 " "
Sucrose by polariscope	40.44 " "
Glucose	None.
Starch paste	Present.

Contains starch.

No G-646. Sample of currant jelly (Brand "Diamond") from Doc. B. Boughton, West Bay City.

Sold (1899) by W. I. Brotherton & Co., Bay City.

Producers, Lutz Bros., Allegheney, Pa.

Water.....	26.00	per cent.
Ash.....	0.73	" "
Sucrose by polariscope.....	7.42	" "
Reducing sugar before inversion.....	50.00	" "
Reducing sugar after inversion.....	57.47	" "
Coloring.....	Artificial.	

Imitation fruit jelly artificially colored.

No. K-4. Sample of apple jelly from G. W. Griffin & Co., Muskegon.

Sold (1899) by Lutz-Schramm Co., Allegheney City, Pa.

Producer, Lutz-Schramm Co., Allegheney City, Pa.

Water.....	31.83	per cent.
Ash.....	0.38	" "
Sucrose by polariscope.....	26.12	" "
Glucose.....	None.	
Starch paste.....	Present.	

Contains starch.

MILK.

No. I-162. Sample from John McLeod, Holzheimer Hotel, Saginaw.

Specific gravity.....	1.024	
Water.....	90.08	per cent.
Total solids.....	9.92	" "
Milk fat.....	3.08	" "
Solids not fat.....	6.84	" "
Ash.....	0.65	" "

Below the standard in solids.

No. I-167. Sample from J. H. Parrent, Marshall House, E. Saginaw.

Specific gravity.....	1.035	
Water.....	90.06	per cent.
Total solids.....	9.94	" "
Milk fat.....	0.32	" "
Solids not fat.....	9.62	" "
Ash.....	0.87	" "

Below the standard in solids and milk fat.

No. I-174. Sample from I. N. Brown, Butler House, Lansing.

Specific gravity.....	1.036	
Water.....	90.25	per cent.
Total solids.....	9.75	" "
Milk fat.....	0.73	" "
Solids not fat.....	9.02	" "
Ash.....	0.90	" "

Below the standard in solids and milk fat.

No. I-175. Sample from J. A. Pearsall, Hudson House, Lansing.

Specific gravity.....	1.036	
Water.....	90.22	per cent.
Total solids.....	9.78	" "
Milk fat.....	0.34	" "
Solids not fat.....	9.44	" "
Ash.....	0.86	" "

Below the standard in solids and milk fat.

MUSTARD (Dry).

No. B-186. Sample from M. L. Gerrard, Butternut.

Ash	3.91 per cent.
Wheat starch	35.16 " "
Mustard	
Turmeric	

Adulterated with wheat starch and colored with turmeric.

No. G-634. Sample of dry mustard from Kelly & Co., West Bay City.
(Old stock.)

Ash	8.08 per cent.
Mustard	
Turmeric	

Colored with turmeric.

No. G-639. Brand "Durham," from Staudacher Bros., West Bay City.
Sold (1898) G. A. Alderton & Co., Saginaw,

Ash	3.14 per cent.
Wheat starch	47.67 " "
Mustard	
Turmeric	

Adulterated with wheat starch and colored with turmeric.

No. K-31. Brand "New Era Mills Mustard," from C. J. Fleischhauer, Reed City.
Sold (1898) by J. H. Conrad & Co., Chicago, Ill.
Producer, J. H. Conrad & Co., Chicago, Ill.

Ash	3.01 per cent.
Wheat starch	46.90 " "
Mustard	
Turmeric	

Adulterated with wheat starch and colored with turmeric.

MUSTARD (Prepared).

No. A-231. Brand "National," from W. S. Robins & Co., Adrian.
Sold (1899.)

Producer, The Heinz Co., Lafayette, Ind.

Total solids	14.64 per cent.
Ash	2.69 " "
Mustard	
Vinegar	
Spices and turmeric	

Not properly labeled.

PEAS (Canned.)

No. A-230. Brand "French Medium," from Chas. Young, Adrian.
Sold (1899) by Dwyer & Vhey, Detroit.
Producers, Geo. Cadeau & Co., Paris, France.

Copper in contents of can (1 lb.)	
45.1 mgrms. or	0.010 per cent.
Equivalent in copper sulphate	0.025 " "

Peas greened with copper salt.

PEPPER.

No. G-630. Sample white pepper from Engelbert R. Fischer, Bay City.
Sold (1898) by Meisel & Goeschel, Bay City.

Total ash	12.65 per cent.
Insoluble ash (sand)	10.10 " "
Starch	57.40 " "

Adulterated with wheat and sand.

No. G-633. Sample of red pepper from Engelbert R. Fischer, Bay City.
Sold (1898) by Meisel & Goeschel, Bay City.

Ash	2.18 per cent.
Starch	40.17 " "
Corn meal	-----
Red saunders	-----

Adulterated with corn meal and red saunders.

No. K-19. Sample of black pepper from Peter Van Voerkom, Grand Haven.
Sold (1898) by Geo. Hume & Co., Muskegon.

Total ash	10.88 per cent.
Sand and sulphates	3.37 " "
Starch	28.12 " "
Ether extract	6.53 " "

Adulterated with corn meal.

No. K-29. Sample of black pepper from Hannah & Lay Merc. Co., Traverse City.
Sold by J. H. Bell & Co., Chicago, Ill.
Producer, J. H. Bell & Co., Chicago, Ill.

Ash	6.66 per cent.
Starch	36.28 " "

Adulterated with corn meal.

VINEGAR.

No. G-619. Sample of cider vinegar from Max Berling, Bay City.

Specific gravity	1.0108
Acid as acetic	2.78 per cent.
Total solids	1.60 " "
Ash	0.26 " "

Below the standard in solids and acid strength.

No. G-636. (Brand "Pure Cider Vinegar") from Wm. J. Dunn, West Bay City.
Sold (1899) by Walsh, Tanner & Dally, West Bay City.
Producer, Oakland Vinegar & Pickle Co., Highland Station.

Specific gravity	1.0144
Acid as acetic	3.50 per cent.
Total solids	2.10 " "
Ash	0.23 " "

Below the legal standard in acid strength and ash.

No. G-633. (Brand "Pure Cider Vinegar") from Wm. D. Lennon & Co., West Bay City.

Sold (1899) by Gustin, Cook & Buckley, Bay City.

Producers, Oakland Vinegar & Pickle Co., Highland Station.

Specific gravity.....	1.0166		
Acid as acetic.....	3.81	per cent.	
Total solids.....	2.28	"	"
Ash.....	0.21	"	"

Below the legal standard in acid strength and ash.

No. G-640. (Brand "Pure Cider Vinegar") from Charles W. Bradley, West Bay City.

Specific gravity.....	1.0098		
Acid as acetic.....	2.92	per cent.	
Total solids.....	1.35	"	"
Ash.....	0.23	"	"

Below the legal standard in ash, and solids and in acid strength.

No. G-641. Sample of cider vinegar from Chas. W. Bradley, West Bay City.

Specific gravity.....	1.0080		
Acid as acetic.....	1.20	per cent.	
Total solids.....	2.70	"	"
Ash.....	0.37	"	"

Below the legal standard in acid strength.

No. G-645. (Brand "Pure Cider Vinegar") from Jas. P. Delisle, Essexville.

Sold (1899) by Gustin, Cook & Buckley, Bay City.

Producer, Oakland Vinegar & Pickle Co., Highland Station.

Specific gravity.....	1.0157		
Acid as acetic.....	3.52	per cent.	
Total solids.....	3.05	"	"
Ash.....	0.20	"	"

Below the legal standard in acid strength and ash.

No. K-23. (Brand "Malt Vinegar") from G. G. Smeenge, Holland.

Sold (1899) by William Henning, Chicago, Ill.

Specific gravity.....	1.0059		
Acid as acetic.....	3.81	per cent.	
Total solids.....	0.25	"	"
Ash.....	0.04	"	"
Coloring.....	Caramel.		

Distilled vinegar below the standard in acid strength and artificially colored.

No. K-24. Sample of "Cider Vinegar" from W. E. Haney, Big Rapids.

Sold (1899) by A. W. Strong, Ionia.

Specific gravity.....	1.0110		
Acid, as acetic.....	2.88	per cent.	
Total solids.....	3.49	"	"
Ash.....	0.33	"	"

Below the legal standard in acid strength.

No. K-27. Sample of cider vinegar from Johnson & Kaiser, Cadillac.

Sold (1899) by The Dow & Snell Co., Toledo, Ohio.

Specific gravity.....	1.0168		
Acid, as acetic.....	3.43	per cent.	
Total solids.....	2.90	"	"
Ash.....	0.23	"	"

Below the standard in acid strength and ash.

ABSTRACT OF LAWS.

The following synopsis of the laws enacted to prohibit and prevent adulteration, fraud and deception in the manufacture and sale of articles of food and drink, though not exhaustive or complete, will be found useful:

IN GENERAL.

(Act No. 193, Public Acts 1893, as amended by Act No. 118, Public Acts 1897.)

Peop'e vs. Snowberger, Michigan Supreme Court.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of this act is deemed a sale.

Under this statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled, "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredient injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled, "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee, must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—*Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.*

Extracts made of more than one principle must be labeled with the name of each principle, or else simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., *are strictly prohibited in this State.*

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' package must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask, or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of color ing matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—Oleomargarine must not be sold in this State, *unless* free from coloration or ingredient that causes it to look like butter. Oleomargarine must be branded as such and stores, hotels, restaurants, boarding houses, etc., "shall have placed on the outside door and conspicuously hung in the center, and placed on the walls of any store or room where food is sold or furnished, a white placard on which is printed in black ink, in plain Roman letters of not less than three inches in length, and not less than two inches in width, with the words 'Oleomargarine or butterine sold or used here.'"

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or Compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard" and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words, "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard, or cider vinegar.

CAUTION.

The trade is warned that the foregoing is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

BULLETIN NO. 47.

JULY, 1899.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

The Department has completed a compilation of the Dairy and Food laws of the State of Michigan, with Supreme Court decisions relating thereto. Copies of the same will be furnished those interested on application to this office.

THE ADULTERATIONS OF HILKER & BLETSCH.

For some time past, especially during the last six months, one Fred Hilker, alleged to be a partner and to be representing the firm of Hilker & Bletsch of Cincinnati, Ohio, has been selling various food products throughout the State, many of the sales being made to bakers.

Samples of the goods shipped by this house to fill orders taken by him were secured by our inspectors, among them samples of alleged cream of tartar and jelly. These goods uniformly proved to be grossly adulterated, and several warrants were issued in different counties of the State against the said Fred Hilker, and placed in the hands of the local police officials. In spite of their vigilance and watchfulness, the officers have been unable to apprehend Hilker. It is reported that he in some way learned that warrants were out for his arrest, since which time he has kept out of the State.

We regret exceedingly that this firm is beyond the reach of process from our criminal courts, and under the circumstances it becomes necessary to employ other means to correct the deceitful impositions practiced by them.

The responsibility for the purity of all articles purchased of a firm beyond the Department's jurisdiction must necessarily be confined solely to the dealer within the State handling the same.

We therefore warn the trade of Michigan against the purchase of this company's adulterated products, either by mail orders or otherwise, as in the future action will be taken against any and all found offering for sale adulterated goods purchased from or manufactured by Hilker & Bletsch.

THE NEW OLEOMARGARINE LAW.

The attention of all dealers in oleomargarine is called to the new regulations governing the sale of oleomargarine now in force in this State, the same having been enacted by the last Legislature and given effect June 23, 1899.

Its provisions in general are as follows:

All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length and not less than two inches in width. This applies to proprietors of hotels, restaurants and boarding houses where oleomargarine is served to guests.

All packages containing oleomargarine must be branded as such in ordinary bold faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold faced capital letters not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

The statute in full will be furnished on application to this office, and dealers are advised to secure a copy and examine the same carefully, as a strict compliance with the provisions thereof will be required.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
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CASES DISPOSED OF

Before Examining Magistrates	1	{ Defendants bound over to trial courts.....	1
		{ Defendants discharged on examination.....	0
In Trial Courts.....	1	{ Defendants convicted	1
		{ Defendants acquitted	0
Cases pending August 1, 1899.....			15

PROCEEDINGS HAD DURING THE MONTH OF JULY, 1899.

The examination in the case pending in justice court of the city of Caro against Phipps, Penoyer & Co., a corporation, William C. Phipps, president, and Chauncey W. Penoyer, secretary and treasurer of said corporation, defendants being charged with having sold adulterated cream of tartar, was held on the 7th inst. Defendants were bound over to the circuit court of the county of Tuscola for trial.

• The case pending in justice court of the city of Muskegon against Charles H. Camp, representing W. J. Quan & Co., of Chicago, defendant being charged with having sold adulterated vinegar, came up for trial on the 18th inst. Defendant withdrew his plea of not guilty, and entered a plea of guilty. A fine of \$50.00 and \$10.00 costs was imposed by the court.

INSPECTIONS.

The following places were visited during the month of July by the Department's inspection force:

Plymouth, Northville, Wayne, Maybee, Munnith, Jackson, Kalamazoo, Holland, Grand Junction, Vicksburg, Augusta, Schoolcraft, Galesburg, Lapeer, Perry, Silverwood, Clifford, Caro, Webberville, Locke, Morris, Williamston, Fowlerville, Holly, Highland Station, Corunna, Vernon, Durand, Ovid, St. Johns, Chapin, Racy, Brant, Lentz, Marion Springs, Brady, Oakley, West Haven, Milford, Detroit, Bay City, West Bay City, Zilwaukee, Carrollton, Saginaw, Montague, Spring Lake, Coopersville, Fennville, Mancelona, Kalkaska, Frankfort, South Frankfort, Thompsonville.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of July, 1899:

At Ann Arbor:

Mills Bros.—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; sanitary conditions, fair; uses an aerator; milk room, ordinary.

W. Lathrop—Condition of cows, clean; stables, clean; drainage, imperfect; ventilation, good; water, spring; milk aerated in barn; sells milk to the Sanitary Milk Co.

Sanitary Milk Co.—This company buys and distributes milk. Sanitary conditions surrounding their business, first-class.

F. Hutzal—Condition of cows, clean; stables, clean; ventilation, fairly good; water, well and spring; uses an aerator; sells milk to the Sanitary Milk Co.

C. W. Rose—Condition of cows, clean; stables, clean; ventilation, good; water, spring; milk room in poor condition.

G. E. Smith—Condition of cows, clean; stables, fairly clean; ventilation, fairly good; water, spring; sanitary conditions, fair; milk room large and airy; sells milk to W. G. Price.

Edward Hammel—Condition of cows, clean; stables, clean; ventilation, good; water, well; sells milk to the Sanitary Milk Co.

D. VanGieson—Condition of stables, floor clean; ceilings dusty; drainage, poor; ventilation, good; water, spring; sanitary conditions in general, poor; manure allowed to accumulate near stable.

A. C. Behringer—Condition of cows, clean; stables, fairly clean; drainage, poor; ventilation, fair; water, well; sanitary conditions, poor; milk room, ordinary; uses an aerator.

U. G. Darling—Condition of cows, clean; stables, fairly clean; ventilation, good; water, spring; uses an aerator; milk room in fair condition; sells milk to Sanitary Milk Co.

G. S. Howe—Condition of cows, clean; is building a new stable with cement floor and gutter; water, spring; uses an aerator; sells milk to the Sanitary Milk Co.

C. W. Tubbs—Stables in good condition; have cement floor and gutter; ventilation, good; water, spring; milk aerated in barn.

H. Preston—Condition of cows, clean; stables, clean; ventilation fair; water, well; milk room, ordinary; uses a separator.

A. F. Smith—Condition of cows, clean; stables, clean; ventilation, fairly good; water, well; milk room, ordinary.

N. Woodmansee—Condition of cows, clean; stables, clean; drainage imperfect; ventilation, good; water, city; cooling room in fair condition; uses an aerator.

T. Chandler—Condition of cows, clean; stables, clean; ventilation, good; water, spring and well; milk room in fair condition; yard unclean; uses an aerator; sells milk to the Sanitary Milk Co.

H. Rayer—Condition of cows, clean; stables, clean; ventilation, good; water, spring and well; sanitary conditions, fair; uses an aerator; yard, unclean; milk room, ordinary.

D. B. Sears—Condition of cows, clean; stables, floors clean; ceiling, dusty; ventilation, fair; water, well; uses an aerator; sells milk to the Sanitary Milk Co.

George Loomis—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; uses an aerator; milk room in fair condition; sells milk to the Sanitary Milk Co.

J. O'Hara—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, poor; milk aerated in stable; yard in poor condition.

E. Besch—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well and creek; yard, unclean; sells milk to the Sanitary Milk Co.

F. B. & C. Braun—Condition of cows, clean; stables, fair; ventilation, fair; water, well; uses an aerator; milk room remote from barn and in fairly good condition; sells milk to the Sanitary Milk Co.

Lerg Bros.—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well and creek; milk room, ordinary.

E. Popkins & Son—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; has a clean, airy milk room remote from barn; yard, unclean; milk aerated in barn; sells milk to the Sanitary Milk Co.

T. W. Willets—Condition of cows, clean; stables, fairly clean; ventilation, good; water, well; milk room, ordinary; uses an aerator; sells milk to the Sanitary Milk Co.

E. A. Madison—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well and creek; milk room, ordinary; sells milk to the Sanitary Milk Co.

J. Fredericks—Condition of cows, clean; stables, fairly clean; ventilation, good; water, spring; sanitary conditions, fair; cooling room remote from barn and in fair condition.

Wm. G. Price—Condition of cows, clean; stable, clean; ventilation, fair; water, well; milk room remote from barn and in fair condition.

John Murphy—Condition of cows, clean; stables, fairly clean; water, spring; sells milk to the Sanitary Milk Co.

J. Rowe—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well; sanitary conditions, poor; milk room, ordinary.

F. Ticknor—Condition of cows, clean; stables, fairly clean; ventilation, good; water, spring; sanitary conditions, fair; uses an aerator; milk room remote from barn and in fair condition.

A. D. Budd—Condition of cows, clean; stable, unsanitary; ventilation, poor; water, well; sanitary conditions, poor.

E. L. J. Smith—Condition of cows, clean; stables, clean; ventilation, good; water, well; sanitary conditions, fairly good.

At Chelsea:

Geo. V. Clark—Condition of stables, fairly clean; ventilation, fair; water, well,

Jacob Hummel—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, creek.

Geo. Ward—Condition of cows, clean; cows are not stabled; water, well and spring.

At Milan:

W. F. Allen—Condition of cows, clean; stables, fairly clean; yard, unclean; ventilation, fair; water, well.

Alva R. Dexter—Condition of cows, clean; stable, clean; ventilation, good; water, well.

At Grass Lake:

G. S. Smith—Condition of cows, clean; stable, unsanitary; ventilation, poor; water, well; sanitary conditions, poor.

At Plymouth:

Wm. Farrand—Condition of cows, clean; stables, clean; has cement floor and gutter; ventilation, poor; water, spring; uses an aerator.

Geo. W. Lee—Condition of cows, clean; stables, very clean; has cement floor and gutter; ventilation, good; water, spring; milk aerated in stable

At Wayne:

Hugh Austin—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, river.

P. H. Stillwagon—Condition of cows, clean; stables, fairly clean; ventilation, poor; water, spring; milk room in fair condition; sells milk to Alonzo Sackett.

G. W. Bell—Condition of cows, clean; stables, poor; ventilation, poor; water, well and river.

Richard Beeman—Condition of cows, clean; stables, fair; ventilation fair; water, well; sells milk to G. W. Bell.

Burton Boice—Condition of cows, clean; stables, clean; ventilation, fairly good; water, well; sells milk to Alonzo Sackett.

Henry Carlson—Condition of cows, clean; stables, fairly clean; ventilation, fair; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., July 31, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of July, 52 samples of food products have been examined, 29 being pure and 23 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	2	1	1
Cinnamon.....	1	1	0
Cream of tartar.....	3	0	3
Extracts (flavoring).....	6	1	5
Ginger.....	1	1	0
Jelly.....	4	1	3
Maple Syrup.....	1	1	0
Milk.....	4	4	0
Mustard (dry).....	3	1	2
Molasses.....	2	0	2
Olive oil.....	1	1	0
Peas (canned).....	1	1	0
Pepper.....	2	0	2
Pickles.....	2	2	0
Plums (canned).....	1	1	0
Preserves.....	3	3	0
Preservatives.....	5	5	0
Sugar.....	1	1	0
Summer beverages.....	1	0	1
Teas.....	3	3	0
Vinegar.....	5	1	4
Totals	52	29	23

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

ALLSPICE.

No. G-658. Sample from Juliaette Smith, Bay City.
Sold (1898) by Gustin, Cook & Buckley, Bay City.

Ash	4.64 per cent.
Starch	24.00 " "
Cooked wheat starch	
Ground cassia	

Adulterated with cooked wheat starch.

CREAM OF TARTAR.

No. A-244. Sample from J. E. Walton, Kalamazoo.
Sold (1897) by Hilker & Bletsch, Cincinnati, Ohio.

Cream of tartar	63.78 per cent.
Corn starch	2.57 " "
Acid phosphate of lime	17.02 " "
Sulphate of lime	12.60 " "
Water	4.03 " "

Adulterated with phosphate and sulphate of lime and corn starch.

No. G-649. Sample from Ackerman & Brown, Detroit.
Sold (1899) by The Edward Henkle Co., Detroit.

Cream of tartar	82.80 per cent.
Acid phosphate of lime	5.69 " "
Sulphate of lime	4.58 " "
Water	6.93 " "

Adulterated with phosphate and sulphate of lime.

No. G-655. Brand "Strictly Pure 99%" from William H. Trask, Bay City.
Sold (1899) by Meisel & Goeschel, Bay City.
Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar	None.
Corn starch	22.50 per cent.
Acid phosphate of lime	23.73 " "
Sulphate of lime	24.48 " "
Alum (anhydrous)	16.94 " "
Water	12.35 " "

An imitation cream of tartar.

EXTRACTS.—(Flavoring.)

No. A-235. Sample extract of vanilla (Brand "Bennett's") from Charles Crane, Munith.

Sold (1899) by S. C. Wells & Co., Le Roy, N. Y.

Producer, Bennett's Chemical Co., New York.

Solid extract.....	6.77 per cent.
Vanillin.....	0.100 " "
Coumarin.....	0.028 " "
Coloring.....	Artificial.
Vanilla resin.....	None.

An extract of tonka with added vanillin and artificially colored.

No. G-657. Brand "Concentrated Extract of Vanilla" from Stenger & Son, Bay City.
Sold (1898) by Robert A. Hance, Philadelphia, Pa.

Producer, R. A. Hance, Philadelphia, Pa.

Solid extract.....	28.94 per cent.
Vanillin.....	0.029 " "
Coloring.....	Artificial.
Vanilla resin.....	None.

An artificial preparation.

No. G-659. Sample extract of vanilla (Brand "Dieter's Double Strength") from Frank Kellerman & Co., Bay City.

Sold (1899) by The J. P. Dieter Co., Chicago, Ill.

Producer, The J. P. Dieter Co., Chicago, Ill.

Solid extract.....	18.35 per cent.
Vanillin.....	0.035 " "
Coloring.....	Artificial.

Artificially colored.

No. G-660. Sample of extract of vanilla and tonka (Brand "Standard") from Frank Kellerman & Co., Bay City.

Sold (1899) by Meisel & Goeschel, Bay City.

Producer, Atwood & Steele, Chicago, Ill.

Solid extract.....	10.78 per cent.
Vanillin.....	None.
Coumarin.....	0.030 " "
Color.....	Artificial.
Gums and organic acids.....	None.

An artificial preparation.

No. G-672. Sample extract of vanilla (Brand "Standard") from John L. Seebeck, Bay City.

Sold (1899) by Meisel & Goeschel, Bay City.

Producers, Atwood & Steele, Chicago, Ill.

Solid extract.....	10.63 per cent.
Vanillin.....	None.
Coumarin.....	0.032 " "
Color.....	Artificial.
Gums and organic acids.....	None.

An artificial preparation.

JELLY.

No. A-234. Sample of jelly (Brand "Baker's Delight") from Geo. Taylor, Plymouth.
Sold (1899) by Ward L. Andrus & Co., Detroit.

Water.....	32.40	per cent.
Ash.....	0.50	" "
Sucrose by polariscope.....	16.73	" "
Reducing sugar before inversion.....	34.26	" "
Reducing sugar after inversion.....	44.45	" "
Color.....	Artificial.	

Imitation fruit jelly artificially colored.

No. A-243. Sample jelly (Brand "Clifford's Strawberry Jelly") from W. H. Skaates,
Kalamazoo.

Sold (1898).

• Producer, H. J. Heinz, Chicago, Ill.

Water.....	35.35	per cent.
Ash.....	0.62	" "
Sucrose.....	None.	" "
Reducing sugar.....	43.87	" "

An imitation fruit jelly.

No. A-246. Sample of crabapple jelly from J. E. Walton, Kalamazoo.

Sold (1898) by Hilker & Bletsch, Cincinnati, Ohio.

Water.....	29.19	per cent.
Ash.....	0.65	" "
Sucrose.....	None.	" "
Reducing sugar.....	42.88	" "
Starch paste.....	Present.	
Color.....	Artificial.	

Imitation fruit jelly artificially colored.

MUSTARD (Dry).

No. C-387. Sample received from Alpena.

Sold by Pure Gold Mfg. Co., Rochester, N. Y.

Ash.....	6.21	per cent.
Mustard.....		
Coloring.....	Turmeric.	

Artificially colored.

No. G-673. Sample from Chas. H. Bates, Saginaw.

Sold (1899) by John P. Derby, Saginaw.

Ash.....	5.92	per cent.
Mustard.....		
Coloring.....	Turmeric.	

Artificially colored.

MOLASSES.

No. G-669. Sample (Brand "Waveland") from Silas Forcia, Bay City.
Sold (1898) by Walsh, Tanner & Daily, West Bay City.

Water.....	26.20	per cent.
Ash.....	0.80	" "
Sucrose by polariscope.....	2.86	" "
Reducing sugar before inversion.....	33.38	" "
Reducing sugar after inversion.....	36.72	" "

Adulterated with glucose.

No. K-35. Sample from Muskegon.
Sold (1899) by Chicago Syrup Refining Co., Chicago, Ill.
Producer, Chicago Syrup Refining Co., Chicago, Ill.

Water.....	21.08	per cent.
Ash.....	2.96	" "
Sucrose by polariscope.....	20.45	" "
Reducing sugar before inversion.....	31.34	" "
Reducing sugar after inversion.....	51.54	" "

Adulterated with glucose.

PEPPER.

No. G-661. Sample of white pepper from Frank Kellerman & Co., Bay City.

Ash.....	2.35	per cent.
Starch.....	45.00	" "
Piperine and resin.....	6.20	" "
Corn starch.....	Present.	

Adulterated with corn meal.

No. G-666. Sample of cayenne pepper from C. D. Richardson, Bay City.
Sold (1899) by W. I. Brotherton & Co., Bay City.

Total ash.....	7.92	per cent.
Cayenne pepper.....	-----	-----
Artificial coloring matter.....	-----	-----

Artificially colored.

SUMMER BEVERAGES.

No. G-663. Sample "Fruit Crystals" from Martin L. DeBates, Bay City.
Sold (1899) by T. B. Monosmith, Bay City.
Producer, Excelsior Beverage & Extract Co., Chicago, Ill.

Cane sugar.....	90.00	per cent.
Citric acid.....	----	----
Artificial coloring matter.....	----	----

Contains no fruit or phosphates.

VINEGAR.

No. G-662. Sample "Pure Cider Vinegar" from Paul Kleeman, Bay City.
Sold (1899) by Gustin, Cook & Buckley, Bay City.
Producers, Oakland Cider & Pickle Co., Highland Station.

Specific gravity.....	1.0156	
Acid as acetic.....	3.50	per cent.
Total solids.....	3.28	" "
Ash.....	0.23	" "

Below the standard in ash and acid strength.

No. G-670. Sample "Pure Cider Vinegar" from Silas Forcia, Bay City.

Sold (1899) by Meisel & Goeschel, Bay City.

Producer, Oakland Vinegar & Pickle Co., Highland Station.

Specific gravity.....	1.0158
Acid as acetic.....	3.57 per cent.
Total solids.....	3.20 " "
Ash.....	0.22 " "

Below the standard in ash and acid strength.

No. G-671. Sample "Pure Cider Vinegar" from Richard Camber, Bay City.

Sold (1899) by Gustin, Cook & Buckley, Bay City.

Producer, Oakland Vinegar & Pickle Co., Highland Station.

Specific gravity.....	1.0157
Acid as acetic.....	3.64 per cent.
Total solids.....	2.99 " "
Ash.....	0.22 " "

Below standard in ash and acid strength.

No. K-34. Sample from Chas. P. Lillie, Coopersville.

Sold 1899.

Producer, Burt Titus, Coopersville.

Specific gravity.....	1.0228
Acid as acetic.....	3.17 per cent.
Total solids.....	5.83 " "
Ash.....	0.33 " "

Below standard in acid strength.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituos, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

Oleomargarine must not contain artificial coloring matter.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

BULLETIN NO. 48

AUGUST, 1899

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

THE ADULTERATIONS OF THE BENNETT CHEMICAL COMPANY.

An attempt has been made to place upon the markets of the State an alleged extract of vanilla known as "Bennett's Concentrated Extract Vanilla," purported to be manufactured by the Bennett Chemical Co., of New York, and furnished to the trade by L. C. Wells & Co., of Leroy, N. Y., who are represented as being the selling agents.

It is claimed on the package containing said alleged extract of vanilla that the contents thereof are "superior in quality and strength, and free from adulterations and impurities."

Samples of these goods have been taken up by our inspectors and our chemists report the same to be grossly adulterated.

We regret exceedingly that the manufacturers of this deceitful imposition and the selling agents thereof are beyond the reach of process from our criminal courts.

Through the medium of the bulletin we caution the trade of Michigan against the purchase of any of this company's adulterations, either by mail orders, or otherwise, as we can extend no lenity to persons found within the State having the same in their possession for sale.

THE NEW PROCESS BUTTER LAW.

The attention of all manufacturers and dealers in process butter is called to the new regulation governing the sale of the same enacted by the last Legislature and taking effect September 22.

Under its provisions all packages containing process butter sold, offered or exposed for sale, or in possession with intent to sell must be labeled "Process Butter." Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter." If packed in tubs or other receptacles, the

words "Process Butter" must be printed in one inch letters *on the top and two sides of the same*. If uncovered, and not contained in a tub or receptacle, a placard containing the words "Process Butter" must be attached to the mass in a manner making them plain and prominent.

The statute in full will be furnished on application to *this office*, and manufacturers and dealers are advised to secure a copy and examine the same carefully as a strict compliance with the provisions thereof will be required.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899	16
Cases commenced since said date	4

CASES DISPOSED OF.

Before Examining Magistrates	1	{ Defendants bound over to trial courts	1
		{ Defendants discharged on examination	0
In Trial Courts	2	{ Defendants convicted	2
		{ Defendants acquitted	0
Cases pending September 1, 1899			18

PROCEEDINGS HAD DURING THE MONTH OF AUGUST, 1899.

In the case pending in the circuit court of the county of Berrien, against Sam C. Miller, representing Merriam, Collins & Co., of Chicago, Ill., charged with having sold adulterated cream of tartar, defendant entered a plea of guilty. A fine of \$30.00 and costs was imposed by the court.

Complaint was made on the 29th inst. in justice court of the city of Lansing against Charles P. Downey, charged with having served oleo-margarine without displaying the required signs. Examination set for September 14.

Complaint was made on the 29th inst. in justice court of the city of Lansing against Isaac M. Brown, charged with having served oleo-margarine without displaying the required signs. Examination set for September 14.

Complaint was made on the 29th inst. in justice court of the city of Lansing against Frank Wentworth, charged with having served oleo-margarine without displaying the required signs. Examination set for September 14.

Complaint was made on the 29th inst. in justice court of the city of Lansing against Robert M. Renner, charged with having served oleo-margarine without displaying the required signs. Examination set for September 14.

INSPECTIONS.

The following places were visited during the month of August by the department's inspection force:

Clayton, Britton, Ridgeway, Dundee, Mantistique, Gladstone, Iron Mountain, Norway, Menominee, Escanaba, Marquette, Ishpeming, Negaunee, Elsie, Eureka, Carland, Middleton, Ridge Road, Pompeii, Perrinton, Newark, New Haven Center, Crystal Sumner, Elm Hall, Riverdale Dushville, Beal City, Weidman, Sherman City, Barryton, Sears, Evart, Avondale, Harrietta, Cadillac, Marion, Harrison, Calkinsville, Clare, Shepard, Mt. Pleasant, Pleasant Valley, St. Louis, Edgewood, Ithaca, Sickles, Banister, Ashley, Shepardsville, Duplaine, Durand, Swartz Creek, Duffield, Gibsonville, Grand Blanc, Atlas, Ortonville, Goodrich, Clyde, Clarkson, White Lake, Highland, Hartland, Parshalville, Vernon, Mackinac Island, Mackinaw City, St. Ignace, Sault Ste. Marie, Neasville, Brimley, Bay Mills, Newberry, Dollarville, Munising, Wetmore, Grand Marais, Seney, Manistee, Park Lake, Baldwin, Ludington, Scottville, Saugatuck, Douglas, South Haven, St. Joseph, Benton Harbor, Allegan, Vanderbilt, Wolverine, Cornwell, Grayling, Lewiston, Waters, Gaylord.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of August, 1899:

At Sault Ste. Marie:

George Taylor—Condition of cows, good; feed, pea meal; condition of stables, good; yard, dry and clean; ventilation, good; water, spring.

Fred Bedard—Condition of cows, good; feed, good pasture, does not feed in stable; stables, clean, and neat; yard, very clean and dry; ventilation, not very good; water, city.

John Watson—Condition of cows, good; feed, good pasture, does not feed in stable; stables, not very clean; yard, fairly clean and dry; ventilation, not very good; water, city.

William Hamilton—Condition of cows, good; feed, good pasture, does not feed in stable; condition of stables, not very good; yard, very clean and dry; ventilation, good; water, city.

H. Thoresen—Condition of cows, fat and clean; feed, good pasture and feeds shorts in stable; stables, very clean and neat; yard, clean and dry; ventilation, not very good; water, city.

G. D. Welton—Condition of cows, good; feed, pasture, does not feed in stable; yard, clean and dry; water, city and spring.

Mike Scott—Condition of cows, good; feed, good pasture and bran and shorts; stables, fairly clean; yard, fairly dry and clean; ventilation, not very good; water, spring.

Andrew Julien—Condition of cows, very good; feed, pasture, does not feed in stable; stables, just fairly clean; yard, clean and dry; ventilation, not very good; water, city.

William Barton—Condition of cows, good; feed, pasture, does not feed in barn; yard, very clean and dry; water, water power canal.

Walter W. Dennis—Condition of cows, good; feed, good pasture, but does not feed in barn; stables, fairly clean; yard, not very clean and full of manure; ventilation, fair; water, well; milk room very clean.

William Fletcher—Condition of cows, good; feed, pasture, does not feed in stable; stables, very clean and neat; yard, a little wet owing to recent rains; ventilation, fair; water, well; milk room near house and kept very clean.

William Godfrey—Condition of cows, good; feed, good pasture but does not feed grain at present; good stables, and are kept fairly clean; yard a little wet owing to recent rains, but quite clean; ventilation, not very good; water, good well.

John F. Williams—Condition of cows, just fair; feed, pasture, does not feed grain; stables, rather old and rather dirty; floors, poor; water, springs; general surroundings denote lack of attention.

John Hotten—Condition of cows, good; feed, pasture, does not feed in stable; stables, very wet and dirty; roof leaks and bad floors; yard, clean and dry; ventilation, bad; agreed to fix stable before putting cows in for winter.

George Watson—Condition of cows, very good; feed, good pasture and green fodder corn; stables, fairly clean; yard, dry and clean; ventilation, not very good; water, good well; does not use stables at present; promises to put ventilators in before winter.

James Pullar—Condition of cows, fairly good; feed, pasture, does not feed in stable; stables have clean cement floors and lime used on floors; condition of yard, reasonably clean and dry; ventilation, good; water, good well.

A. T. Eagle—Condition of cows, very good; feed, good clover pasture; does not feed in stable; stables, clean; yard, dry and clean; water, well; uses lime on stable floors; milk room very neat and clean.

Michael Oster—Condition of cows, very good; feed, pasture; does not feed in stable; yard, generally clean and dry though a little wet near barn; ventilation, fairly good; water, city; milk room, very neat and clean.

At Newberry:

Henry Hartwick—Condition of cows, good; feed, good pasture; does not feed grain; stables, very clean; yard, dry and neat; ventilation, fair; water, city.

John Lehnen—Condition of cows, good; feed, shorts, bran, ground feed and pasture; stables, very clean; yard, dry and neat; ventilation, very good; water, well.

At Munising:

Mrs. A. Lucie—Condition of cows, extra good, fat and very clean; feed, bran and shorts; stables, fairly clean; yard, dry and neat with good drainage; ventilation, good; water, city.

Charles Small—Condition of cows, good; feed, bran and shorts; stables, clean and neat; yard, fairly dry but clean; ventilation, fairly good; water, well.

At Marquette:

Albert Quandt—Condition of cows, good; feed, pasture, does not feed in stable; stable, clean; is just about to build a good modern barn; yard, very clean and dry; ventilation, good; water, spring and creek.

Grosh Anderson—Condition of cows, good; feed, bran and shorts; stables, very clean and neat; yard, dry and clean; ventilation, good; water, river and well.

Henry Vandembloom & Son—Condition of cows, very good; feed, brewery grain and bran; stables, good light, roomy and very clean; yard, dry and neat; ventilation, perfect; water, spring creek.

Michael Guelff—Condition of cows, fairly good; feed, pasture, does not feed grain; stables, reasonably clean; yard, wet and dirty; ventilation, poor; water, spring creek.

John Harris—Condition of cows, good and very clean; feed, shorts and brewery grain; stables, clean and neat; has a good barn in city for winter use; has electric lights and water in this barn; yard, dry and clean; ventilation, good; water, spring, creek and well.

Chris Johnson—Condition of cows, good; feed, pasture and green grass

fed in stable; stables, new and very clean; ventilation, good; water, spring, creek and well.

Anton Johnson—Condition of cows, good; feed, brewery grain and shorts; stables, new, light, and very clean; yard, clean and dry; ventilation, fairly good; water, well.

John W. Restehoven—Condition of cows, good; feed, bran and shorts; stables, clean and neat; yard, dry and clean; ventilation, good; water, creek and city.

Louis Larsen—Condition of cows, good; feed, bran and shorts; stables, clean; yard, clean and dry; ventilation, good; water, creek and city.

Mrs. James McMarten—Condition of cows, good; feed, bran and ground corn and oats; stables, small but extremely clean; washes floor each day; yard, clean and dry; ventilation, good; water, city.

Gus Larsen—Condition of cows, good; feed, bran and shorts and ground corn and oats; stables, clean and neat; uses saw dust litter on floors; yard, clean and dry; ventilation, fair; water, city.

Henry Jacobson—Condition of cows, good; feed, bran and shorts; stables, new and kept very clean; ventilation, good; water, city.

John Loneger—Condition of cows, good; feed, bran, middlings and ground corn and oats; condition of stables, good and clean; yard, clean and dry; ventilation, fairly good; water, city.

W. H. Quarter—Condition of cows, extra good and very clean; feed, bran, shorts, chop feed and a little brewery grain; stables, clean and neat; yard, clean and dry; ventilation, good; water, creek and city; cows and milk handled with care and neatness.

Anton Henricks—Condition of cows, good; feed, bran, middlings, ground corn and oats and brewery grain; stables, very neat and clean; yard, very dry and clean; ventilation, good; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., August 31, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of August, 96 samples of food products have been examined, 54 being pure and 42 adulterated.

R. E. DOOLITTLE,

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	2	2	0
Cinnamon.....	6	4	2
Cloves.....	1	1	0
Cream.....	4	4	0
Cream of tartar.....	9	1	8
Extracts (flavoring).....	5	1	4
Grape juice.....	1	1	0
Herring.....	1	1	0
Honey.....	1	0	1
Jelly.....	1	0	1
Milk.....	27	27	0
Mustard.....	7	1	6
Pepper.....	12	4	8
Potato flour.....	1	0	1
Syrup.....	1	0	1
Vinegar.....	17	7	10
Totals.....	96	54	42

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

CINNAMON.

No. K-47. Sample of cinnamon (Brand "Purity") from Geo. E. Tripp, Ludington.
Sold (1899) by Smith, Thorndike & Brown Co., Milwaukee, Wis.

Ash	5.38 per cent.
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Adulterated with cooked wheat starch.

No. K-48. Sample of cinnamon from H. C. Hanson, Ludington.
Sold (1899) by Wellauer & Hoffman Co., Milwaukee, Wis.

Ash	6.62 per cent.
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Adulterated with cooked wheat starch.

CREAM OF TARTAR.

No. A-263. Sample of cream of tartar (Brand "Wig") from Beck & Nelson, Escanaba.
Sold (1898) by Penberthy, Cook & Co., Menominee.

Cream of tartar	None.
Corn starch	3.62 per cent.
Acid phosphate of lime	39.67 " "
Sulphate of lime	45.82 " "
Water	10.89 " "

An imitation cream of tartar.

No. A-266. Sample of cream of tartar from A. Blanchet, Escanaba.
Sold (1898) by Penberthy, Cook & Co., Menominee.

Cream of tartar	None.
Corn starch	6.23 per cent.
Acid phosphate of lime	37.14 " "
Sulphate of lime	45.20 " "
Water	11.43 " "

An imitation cream of tartar.

No. A-269. Sample of cream of tartar from Jensen & Sorensen, Menominee.
Sold (1899) by Joannes Bros. & Co., Green Bay, Wis.

Cream of tartar	None.
Corn starch	12.03 per cent.
Acid phosphate of lime	40.34 " "
Sulphate of lime	38.96 " "
Water	10.67 " "

An imitation cream of tartar.

No. A-272. Sample of cream of tartar (Brand "City") from Engberg & Co., Menominee.

Sold (1899) by Penberthy, Cook & Co., Menominee.

Cream of tartar.....	None.
Corn starch.....	5.76 per cent.
Acid phosphate of lime.....	38.69 " "
Sulphate of lime.....	43.88 " "
Water.....	11.67 " "

An imitation cream of tartar.

No. A-274. Sample of cream of tartar from Anderson & Sundstrom, Iron Mountain.
Sold (1899) by Joannes Bros. & Co., Green Bay, Wis.

Cream of tartar.....	None.
Corn starch.....	12.17 per cent.
Acid phosphate of lime.....	52.44 " "
Sulphate of lime.....	24.88 " "
Water.....	10.51 " "

An imitation cream of tartar.

No. A-275. Sample of cream of tartar from Rusky Bros., Iron Mountain.
Sold (1899).

Cream of tartar.....	11.57 per cent.
Corn starch.....	12.17 " "
Acid phosphate of lime.....	32.89 " "
Sulphate of lime.....	34.40 " "
Water.....	8.97 " "

Adulterated with corn starch, acid phosphate of lime and sulphate of lime.

No. B-196. Sample of cream of tartar (Brand "Strictly Pure 99%") from G. L. Thornton, Marion.

Sold (1899) by Ball-Barnhart-Putnam Co., Grand Rapids.

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	2.16 per cent.
Acid phosphate of lime.....	43.74 " "
Water.....	6.76 " "
Sulphate of lime.....	47.34 " "

An imitation cream of tartar.

No. G-684. Sample of cream of tartar from Wm. J. Armstrong, Sault Ste. Marie.

Sold (1899) by Atwood & Steele, Chicago, Ill.

Producers, Norton Bros., Chicago, Ill.

Cream of tartar.....	31.68 per cent.
Corn starch.....	20.19 " "
Acid phosphate of lime.....	21.32 " "
Sulphate of lime.....	19.28 " "
Water.....	7.53 " "

Cream of tartar adulterated with corn starch and phosphate of lime and sulphate of lime.

EXTRACTS.—(Flavoring.)

No. A-251. Sample of flavoring powder, vanilla (Brand "Health Flavoring") from E. C. Hawkins & Son, Clayton.
Sold (1898).

Producer, Health Chemical Co., Clayton.

Cane sugar.....	99.83 per cent.
Vanillin.....	0.17 " "

Sample is a mixture of cane sugar and vanillin.

No. B-189. Sample extract of vanilla (Brand "Pure Triple Extract Vanilla") from B. D. Rathbun, Bancroft.

Sold (1899) by The Smart & Fox Co., Saginaw.

Producer, Melze, Smart & Co., Saginaw.

Coumarin.....	0.281 per cent.
Vanillin.....	None.
Vanilla resin.....	"
Organic acids and gums.....	"
Coloring.....	Artificial.

An artificial preparation.

No. K-40. Sample extract strawberry from Johnson & Dahlquist, Manistee.
Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Producer, W. J. Quan & Co., Chicago, Ill.

Solid extract.....	0.04 per cent.
Compound ethers.....	-----
Alcohol.....	-----
Coloring.....	Artificial.

An artificial preparation.

No. K-41. Sample extract of vanilla (Brand "Royal Blue") from Johnson & Dahlquist, Manistee.

Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Producer, W. J. Quan & Co., Chicago, Ill.

Vanillin.....	0.016 per cent.
Coumarin.....	0.093 " "
Organic acids and extractives.....	None.
Color.....	Artificial.

An artificial preparation.

HONEY.

No. A-278. Sample of honey (extracted) from Mrs. S. Stoll, Marquette.
Sold (1899) by John A. Tolman Co., Chicago, Ill.

Water.....	20.60 per cent.
Ash.....	0.22 " "
Reducing sugar before inversion.....	47.67 " "
" " after ".....	48.73 " "
Polarization before ".....	+127.4 degrees.
" after ".....	+127.6 " "

Glucose flavored with piece of comb honey.

JELLY.

No. A-256. Sample of strawberry jelly (Brand "Champion") from F. W. Yates & Co., Britton.

Sold (1899) by The Paddock-Overmyer Co., Toledo, Ohio.

Producers, Champion Syrup Refining Co., Indianapolis, Ind.

Water	34.76	per cent.
Ash	0.58	" "
Reducing sugar before inversion	32.68	" "
" after "	33.80	" "
Polarization before "	118.0	degrees.
" after "	116.6	"
Color	Artificial.	

Imitation fruit jelly artificially colored.

MUSTARD (Dry).

No. A-268. Sample of mustard from L. Nelson, Menominee.

Sold (1899) by The James Pittaway Co., Chicago, Ill.

Ash	4.00	per cent.
Wheat starch	53.60	" "
Mustard		
Color	Turmeric.	

Adulterated with wheat starch and colored with turmeric.

No. A-279. Sample of mustard from Jacob Smith, Marquette.

Sold (1898) by Puhl, Webb, Co., Chicago, Ill.

Ash	3.00	per cent.
Corn starch	65.40	" "
Mustard		
Color	Turmeric.	

Adulterated with corn starch and colored with turmeric.

No. A-282. Sample of mustard from Chas. Cyr, Marquette.

Producer, American Supply Co., St. Louis, Mo.

Ash	2.40	per cent.
Wheat starch	56.25	" "
Mustard		
Color	Turmeric.	

Adulterated with wheat starch and colored with turmeric.

No. G-677. Sample of mustard (Brand "Coleman Bull's Head") from John M. Davis & Sons, Mackinac Island.

Sold (1899) by Franklin McVeagh & Co., Chicago, Ill.

Ash	3.41	per cent.
Wheat starch	20.09	" "
Mustard		
Color	Turmeric.	

Adulterated with wheat starch and colored with turmeric.

No. G-689. Sample of mustard from Morris Reidy, Sault Ste. Marie.
 Sold (1899) by W. J. Gould & Co., Detroit.
 Producers, Jefferson Mills Spice Grinders, Detroit.

Ash	5.60 per cent.
Wheat starch	8.27 " "
Mustard	
Color	Turmeric.

Adulterated with wheat starch and colored with turmeric.

No. G-700. Sample of mustard from Hargrave Bros. & Co., Seney.

Ash	3.60 per cent.
Wheat starch	46.87 " "
Mustard	
Color	Turmeric.

Adulterated with wheat starch and colored with turmeric.

PEPPER.

No. A-283. Sample of ground pepper from Chas. Cyr, Marquette.
 Producer, American Supply Co., St. Louis, Mo.

Ash	5.00 per cent.
Starch	34.09 " "
Piperine and resin	4.22 " "

Adulterated with corn meal.

No. B-195. Sample of cayenne pepper (Brand "Absolutely Pure Cayenne Pepper")
 from W. C. Shepard, Middleton.
 Sold by Olney & Judson Grocery Co., Grand Rapids.

Total ash	11.59 per cent.
Insoluble ash, sand	4.48 " "
Coloring	Artificial.

Contains an excessive amount of sand and foreign coloring matter.

No. G-682. Sample of white pepper from James S. Royce, Sault Ste. Marie.
 Sold (1899) by Reid Murdock & Co., Chicago, Ill.

Ash	1.50 per cent.
Starch	59.21 " "
Piperine and resin	4.90 " "

Adulterated with corn meal.

No. K-37. Sample of pepper (Brand "Red Cross Mills") from Joseph E. Mailhot,
 Manistee.
 Sold (1899) by Roundy, Peckham & Co., Milwaukee, Wis.

Ash	6.69 per cent.
Starch	32.33 " "
Piperine and resin	6.40 " "
Wheat starch	Present.

Adulterated with wheat.

No. K-38. Sample of pepper (Brand "Royal Mills") from Joseph E. Mailhot,
 Manistee.
 Sold (1899) by Roundy, Peckham & Co., Milwaukee, Wis.

Ash	6.93 per cent.
Starch	24.46 " "
Piperine and resin	6.34 " "
Wheat starch	Present.

Adulterated with wheat.

No. K-46. Sample of pepper (Brand "Columbia") from Mrs. A. D. Goldberg, Ludington.

Sold (1898) by Puhl-Webb Co., Chicago, Ill.

Total ash.....	10.14 per cent.
Starch.....	30.37 " "
Piperine and resin.....	6.68 " "

Adulterated with corn meal.

No. K-50. Sample of pepper from H. C. Hanson, Ludington.

Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Total ash.....	9.21 per cent.
Starch.....	31.65 " "
Piperine and resin.....	6.13 " "

Adulterated with wheat.

No. K-52. Sample of pepper (brand "Anchor") from Fisher & Caplin, Scottville.

Sold (1899) by H. C. Fisher, Chicago, Ill.

Ash.....	3.22 per cent.
Starch.....	40.17 " "
Piperine and resin.....	7.81 " "

Adulterated with corn meal.

POTATO FLOUR.

No. A-265. Sample of potato flour (brand "Indian") from Cash Mercantile Co., Escanaba, Mich.

(Old stock.)

Producer, Santa Clara Mfg. Co., Omaha, Neb.

Wheat.....

Sample is coarsely ground wheat flour.

SYRUP.

No. A-267. Sample of syrup (brand "Extra Silver Drips") from D. P. McRae, Escanaba, Mich.

Sold (1899).

Producers, Anson Bros., Milwaukee, Wis.

Water.....	23.99 per cent.
Ash.....	0.49 " "
Reducing sugar before inversion.....	39.24 " "
Reducing sugar after inversion.....	42.73 " "
Polarization before inversion.....	134.0 degrees.
Polarization after inversion.....	134.8 " "

A glucose mixture.

VINEGAR.

No. A-262. Sample of cider vinegar (brand "N. C. Vinegar") from F. H. Lantz, Gladstone.

Sold (1899) by W. M. Barrett & Co., Chicago, Ill.

Specific gravity.....	1.0058.
Acid as acetic.....	3.93 per cent.
Total solids.....	0.40 " "
Ash.....	0.06 " "
Color.....	Caramel.

Distilled vinegar artificially colored.

No. A-264. Sample of cider vinegar from L. J. Frederickson, Escanaba.

Sold (1899) by Jewett & Sherman, Milwaukee, Wis.

Producer, American Vinegar Works, Milwaukee.

Specific gravity.....	1.0138
Acid as acetic.....	3.31 per cent.
Total solids.....	3.80 " "
Ash.....	0.40 " "

Below the standard in acid strength.

No. A-280. Sample of cider vinegar (Brand "Crawford") from E. Richards, Marquette.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Specific gravity.....	1.0078
Acid, as acetic.....	4.32 per cent.
Total solids.....	0.32 " "
Ash.....	0.08 " "
Color.....	Caramel.

Distilled vinegar artificially colored.

No. A-284. Sample of vinegar (Brand "Brown Distilled") from J. F. Zerbel, Marquette.

Sold (1898) by Smith, Thorndike & Brown Co., Milwaukee.

Specific gravity.....	1.0059
Acid as acetic.....	3.84 per cent.
Total solids.....	0.40 " "
Ash.....	0.04 " "
Color.....	Caramel.

Distilled vinegar below the standard in acid strength and artificially colored.

No. A-289. Sample of cider vinegar taken from original package at Marquette.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Specific gravity.....	1.0078
Acid as acetic.....	4.32 per cent.
Total solids.....	0.32 " "
Ash.....	0.05 " "
Color.....	Caramel.

Distilled vinegar artificially colored.

No. G-687. Sample of distilled vinegar from Alfred V. Godin, Sault Ste. Marie.

Sold (1899) by Smith, Thorndike & Brown Co., Milwaukee, Wis.

Specific gravity.....	1.0098
Acid as acetic.....	4.53 per cent.
Total solids.....	0.40 " "
Ash.....	0.04 " "
Color.....	Caramel.

Distilled vinegar artificially colored.

No. G-691. Sample of distilled vinegar from Wm. S. Sands, Sault Ste. Marie.

Sold (1898) by Smith, Thorndike & Brown Co., Milwaukee.

Specific gravity.....	1.0114
Acid as acetic.....	5.42 per cent.
Total solids.....	0.50 " "
Ash.....	0.04 " "
Color.....	Caramel.

Distilled vinegar artificially colored.

No. G-692. Sample of distilled vinegar (Brand "Distilled Brown Vinegar") from Morris Reidy, Sault Ste. Marie.

Sold (1898) by Smith, Thorndike & Brown Co., Milwaukee, Wis.

Specific gravity	1.0078
Acid as acetic	3.79 per cent.
Total solids	0.42 " "
Ash	0.04 " "
Color	Caramel.

Distilled vinegar below the standard in acid strength and artificially colored.

No. G-698. Sample of distilled vinegar (Brand "Brown Distilled Vinegar") from Chas. Tremblay, Grand Marais.

Sold (1899) by Smith, Thorndike & Brown Co., Milwaukee.

Specific gravity	1.0078
Acid Acid as acetic	4.08 per cent.
Total solids	0.64 " "
Ash	0.04 " "
Color	Caramel.

Distilled vinegar artificially colored.

No. G-699. Sample of distilled vinegar (Brand "Brown Distilled Vinegar") from Ray M. Hewitt, Grand Marais.

Sold (1898) by Smith, Thorndike & Brown Co., Milwaukee.

Specific gravity	1.0088
Acid as acetic	4.44 per cent.
Total solids	0.46 " "
Ash	0.04 " "
Color	Caramel.

Distilled vinegar artificially colored.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food, may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

Oleomargarine must not contain artificial coloring matter.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pall containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

VANILLA AND ETHEREAL EXTRACTS.

Up to very recent times the question of distinction between true vanilla extract, the product of the vanilla bean, and liquid preparations of vanillin, has been a very difficult and uncertain problem for chemists. With a view to preventing the sale of the latter under such label and conditions as to deceive the purchaser into thinking it was the true extract of the vanilla bean, about two years ago the department ruled, under Subdivision 6 of Sec. 3 of the General Food Law, that all artificial coloring matter in vanilla and tonka, or in a combination of vanilla and tonka, would be prohibited in Michigan, and at the same time had instituted chemical research for a method which would do away with the existing uncertainty in the examination of this class of goods.

The much desired method has been obtained principally through the work of Mr. William H. Hess, formerly connected with the chemical laboratory of the University of Michigan, and now Assistant State Analyst in this Department. His creditable paper upon such has been published in the bulletin and also in pamphlet form by *The Journal of the American Chemical Society*.

The time has come when the competition of the artificial product with the true extract must cease in Michigan. Not only is the consumer entitled to know what he is buying, but the intent of the law-makers is clearly defined to protect the honest producer and seller against unfair and deceitful competition.

We warn all manufacturers, jobbers and retailers, that they will be held strictly accountable for the purity and true labeling of compounds they sell as vanilla, vanilla and tonka, and tonka extract. Goods sold under any of these three labels must be true extracts of the vanilla and tonka bean.

The attention of manufacturers and dealers is again called to the ruling under the law prohibiting the sale of compounds made from ethers,

and which are commonly offered for sale as extracts. Those most met with are raspberry, pineapple, banana and strawberry. These goods are in no sense an extract and are of questionable repute. Their sale is absolutely prohibited as extracts.

The means allowed this Department have not permitted a vigorous prosecution against all lines of adulterated goods at one time. The Department contemplates taking the matter of extracts into the courts of the State at an early date. Manufacturers and dealers have had generous notice that the goods above referred to are contraband, and must not expect that the plea of ignorance will obtain leniency when found selling these goods.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	10

CASES DISPOSED OF.

Before Examining Magistrates	3	{ Defendants bound over to trial courts.....	3
		{ Defendants discharged on examination.....	0
In Trial Courts.....	6	{ Defendants convicted	5
		{ Defendants acquitted	1
Cases pending October 1, 1899			20

PROCEEDINGS HAD DURING THE MONTH OF SEPTEMBER, 1899.

Complaint was made on the 1st inst. in justice court of the city of Marquette against Harry O. McMain, representing Reid, Murdock & Co., of Chicago, Ill., defendant being charged with having sold adulterated vinegar. On the 18th inst. defendant entered a plea of guilty to said charge. A fine of \$50 and costs was imposed by the court.

Complaint was made on the 5th inst. in justice court of the city of Iron Mountain against William E. Collette, representing Joannes Bros. & Co., of Green Bay, Wis., defendant being charged with having sold adulterated cream of tartar. On the 13th inst. defendant waived examination and was bound over to the circuit court for the county of Dickinson for trial.

Complaint was made on the 7th inst. in justice court of the city of Menominee against James Murphy, representing The James Pittaway Co., of Chicago, Ill., defendant being charged with having sold adulterated mustard. The examination in said cause was held before said justice on the 26th inst. Defendant was bound over to the circuit court for the county of Menominee for trial.

Complaint was made on the 21st inst. in justice court of the city of Lansing against Charles P. Downey, of Lansing, Mich., defendant being charged with having served oleomargarine without displaying the required signs. Examination set for October 27.

Complaint was made on the 25th inst. in justice court of the city of Reed City against E. H. Salisbury, representing J. H. Conrad & Co., of Chicago, Ill., defendant being charged with having sold adulterated mustard. Examination set for October 2.

Complaint was made on the 27th inst. in justice court of the city of Menominee against Frank Penberthy, representing Penberthy, Cook & Co., of Menominee, Mich., defendant being charged with having sold adulterated cream of tartar. Examination set for October 13.

In the case pending in the circuit court for the county of Tuscola against Phipps, Penoyer & Co., charged with having sold adulterated cream of tartar, defendant on being arraigned in said court on the 6th inst. made a motion to quash the information in said cause, which said motion was denied by the circuit judge. On the 11th inst. said case came on for trial. Defendant entered a plea of guilty. A fine of \$100 and costs was imposed by the court.

The case pending in the circuit court for the county of Muskegon against Jacob Heethuis, charged with having sold adulterated mustard, came on for trial in said court on the 18th inst. Defendant entered a plea of guilty. A fine of \$25 was imposed by the court.

The case pending in the circuit court for the county of Muskegon against Hans Hanson, charged with having sold adulterated cream of tartar, came on for trial in said court on the 20th inst. Defendant was acquitted.

The examination in the case pending in justice court of the city of Lansing against Isaac M. Brown, charged with having served oleo-margarine without displaying the required signs was held in part on the 20th and 29th insts. Further hearing in the case is set for October 27.

In the mandamus proceedings brought by the department and pending in the supreme court, the court on the 12th inst. handed down an opinion holding that Subdivision 6, of Section 3, of the General Food Law, does not prohibit the manufacture and sale of artificially colored oleo-margarine.

INSPECTIONS.

The following places were visited during the month of September by the department's inspection force:

Negaunee, Republic, Iron Mountain, Crystal Falls, Monroe, Jackson, Kalamazoo, Paw Paw, Benton Harbor, Menominee, Flint, Durand, Gaines, Vernon, Byron, Bancroft, Juddville, Hazelton, New Lathrop, Elk, Montrose, Loutters, Taymouth, Birch Run, Vassar, Tuscola, Frankenthum, Bernington, Valley Mills, Morrice, Nicholson, Shaftsburg, Perry, Haslett, Okemos, DeWitt, St. Johns, Ovid, Burton, Kirby Vernon, Fenton, Argentine, E. Cohoctah, Marquette, Munising, Champion, Beacon, Michigamme, L'Anse, Baraga, Assining P. O., Pequaming, Chassell, Houghton, Hurontown, Atlantic Mine, Hancock, Arcadian Mine, Point Mills, Dollar Bay, Lake Linden, South Lake Linden, Calumet, Kearsarge Mine, Laurium, Allouez, Ripley, Eagle Harbor, Eagle River, Cooper Falls, Opechee, Plainwell, Allegan, Howard City, Cedar Springs, Rockford, Whitehall, Hart, Shelby, Gaylord, Roscommon, Thompsonville, Detroit.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of September, 1899:

At Iron Mountain:

Souzanne Tambouna—Condition of cows, good; feed, middlings; condition of stables, clean and nicely whitewashed; yard, dry and clean; ventilation, fair; water, city.

John Cawlas—Condition of cows, fairly good; feed, pasture, does not feed in stable; condition of stables, floors poor and very dirty; yard, clean and dry; ventilation, poor; water, spring.

Anton Corallo—Condition of cows, good; feed, shorts and millet; condition of stables, fairly clean; yard, dry and quite clean; ventilation, poor; water, city.

Andrew Mattson—Condition of cows, fairly good; feed, bran and shorts; stables, fairly clean; yard clean and dry; ventilation, fair; water, lake and creek.

Hans Petersen—Condition of cows, fairly clean and good; feed bran, shorts and millet; condition of stables, new and clean; yard, clean and dry; ventilation, good; water, well.

Joe Acrosae—Condition of cows, good; feed middlings; condition of stables, very dirty; yard, clean and dry; ventilation, poor; water, spring.

A. E. Robbins—Condition of cows, extra good; feed, bran, ground corn, oats and ensilage; condition of stables, very clean and neatly white-washed; yard, clean and dry; ventilation, good; water, from a good spring.

At Calumet:

Peter Tinetti—Condition of cows, very good; feed, middlings; condition of stables, low and dirty; yard, clean and dry; ventilation, poor; water, well.

James Reynold—Condition of cows, good; feed, bran and middlings; condition of stables; clean and whitewashed; yard, a little wet and a large accumulation of manure near stable; ventilation, fairly good; water, city.

J. H. Lalonde—Condition of cows, good; feed, brewery grain and shorts; condition of stables, new and very clean; yard, clean and dry; ventilation, good; water, well.

John Tomazak—Condition of cows, good; feed, brewery grain, bran, and shorts; condition of stables, good and clean; yard, dry and quite clean; ventilation, fair; water, well.

Nelson Peinung—Condition of cows, good; feed, bran and middlings; condition of stables, good and very clean; yard, clean and dry; ventilation, good; water, well.

At Laurium:

Charley Landstorn—Condition of cows, good; feed, brewery grain; condition of stables, small but clean; yard, wet and dirty; ventilation, poor; water, well.

Dennis Levesque—Condition of cows, good and clean; feed, bran and shorts; condition of stables, clean and neat; yard, dry and clean; ventilation, good; water, well.

At Houghton:

Ed. Johnson—Condition of cows, extra good; feed, clover, green corn and bran; condition of stables, very clean; ventilation, good; water, spring.

Joseph Bruneau—Condition of cows, very good; feed, bran; condition of stables, good and clean; yard, rather wet; ventilation, fair; water, spring.

At Ishpeming:

John Larsen—Condition of cows, good; feed, bran and shorts; condition of stables, old and dirty; yard, fairly clean; ventilation, fairly good; water, city.

Wm. N. Lynch—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, very clean and nicely whitewashed; yard, clean and dry; ventilation, good; water, city.

Andrew Hansen—Condition of cows, good; feed, bran; condition of stables, fairly clean, one dry and neat, one had a bad floor; walls whitewashed; yard, fairly good; water, lake and well.

Joseph Gravewek—Condition of cows, good; feed, bran and pasture; condition of stables, new and nicely whitewashed, are very clean and light; yard, clean and dry; ventilation, perfect; water, well.

Thomas Hancock—Condition of cows, good; feed, bran and shorts; condition of stables, fairly clean; yard, dry but not very clean; ventilation, fair; water, well.

James Andrews—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, clean and neat; yard, very dry and thrifty; ventilation, fair; water, well.

James Pascal—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, fairly clean; has no yard; ventilation, fair; water, well.

Louis Bouty—Condition of cows, good; feed, bran; condition of stables not used in summers; yard, clean and dry; water, creek and city.

Jas. H. Lowry—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, very clean; yard, dry and clean; ventilation, good; water, creek and city.

At Menominee:

Wm. North—Condition of cows, fairly good; feed, brewery grain; condition of stables, old and very dirty; yard, clean and dry; ventilation, poor; water, river.

S. M. Stevenson, Pine Hill Farm—Condition of cows, extra fine; condition of stables, fine circular brick barn, cement floors, water in barn, silo in the center; yard, clean and dry; ventilation, good; water, fine artesian well.

Spencer Carpenter—Condition of cows, extra fine; feed, pasture, green corn, Quaker Oat feed and Gluter meal; condition of stables, strictly up-to-date, cement floors, nicely whitewashed, everything neat and clean; ventilation, good; water, city.

M. Nelson—Condition of cows, fine; feed, ensilage, shorts and cut oat straw; condition of stables, very clean and thoroughly whitewashed; yard, clean and dry; ventilation, good; water, wells.

Peter Rosor—Condition of cows, fairly good; feed, brewery grain and shorts; condition of stables, very clean, except a few cobwebs, whitewashed; ventilation, fair; water, bay and city.

Frank Cornek—Condition of cows, fairly good; feed, brewery grain; condition of stables, clean and nicely littered; ventilation, fair; water, well.

John Persek—Condition of cows, good; feed, brewery grain; condition of stables, clean and nicely littered with shavings; condition of yard, clean and dry; ventilation, fair; water, driven well.

Claus Becker—Condition of cows, good and fairly clean; feed, brewery grain; condition of stables, clean and nicely whitewashed; yard, clean and dry; ventilation, good; water, driven well.

Mrs. E. M. Pallzow—Condition of cows, fairly good; feed, brewery grain and carrots; condition of stables, generally clean, a few cobwebs on ceiling; yard, clean and dry; ventilation, fair; water, river and city.

Joe Chertrey—Condition of cows, good; feed, bran and shorts; does not use stable; condition of yard, clean and dry; water, river and well.

Tom Faulkner—Condition of cows, good; feed, shorts; condition of stables, generally clean, except a few cobwebs over head; yard, a little wet and dirty; ventilation, poor; water, river and city.

August Lunan—Condition of cows, good; feed, pasturage; does not feed grain in summer; condition of stables, fairly clean; yard, clean and dry; ventilation, fair; water, river.

At Port Huron:

Leonard White—Condition of cows, good; feed, bran and shorts; condition of stables, clean; ventilation, fair; water, city.

Wm. Stanzel—Condition of cows, good; feed, ground corn and oats; condition of stables, old floor poor, rather clean; ventilation, good; barn, very open; water, city.

Joseph Brunam—Condition of cows, good; feed, ground oats, barley, peas and corn meal; condition of yard, clean and dry; water, city.

Daniel McDonald—Condition of cows, good; feed, green corn; condition of stables, clean and neat; yard, clean and dry; ventilation, good; water, city.

Geo. Wyman—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, clean and nicely littered; yard, dry but some manure near stable; ventilation, good; water, well.

Fred Wyman—Condition of cows, good; feed, bran, shorts and green corn; condition of stables, clean, uses lime on floors; yard, dry and fairly clean; ventilation, fair; water, creek and well.

L. M. Vincent—Condition of cows, very good; feed, bran and green corn; condition of stables, clean and neat, uses lime on floors; yard clean and dry; ventilation, fair; water, well.

Geo. G. Baldwin—Condition of cows, very good; feed, bran, ground oats, peas and green corn; condition of stables, stone basement, clean and neat, cement floors; ventilation, good; water, springs.

Fred H. Beach—Condition of cows, good; feed, corn, ground oats and turnips; condition of stables, clean and nicely whitewashed; yard, clean and dry; ventilation, good; water, spring and well.

John Skomrock—Condition of cows, good; feed, peas, bran and shorts; condition of stables, fairly clean, floor not very good; yard, dry and fairly clean; ventilation, fair; water, creek and well.

Henry Barnes—Condition of cows, good; feed, bran, shorts and green corn; condition of stables, clean and whitewashed; ventilation, fair; water, well.

M. Friesenham—Condition of cows, good; feed, ground corn and oats; condition of stables, fairly clean, ceiling dusty and some cobwebs, condition of yard, clean and dry; ventilation, fair; water, city.

John Pohl—Condition of cows, good; feed, corn meal, bran, sugar beets and hay; condition of stables, clean and whitewashed; yard, clean and dry; ventilation, fair; water, city.

E. D. Smith Estate—Condition of cows, good; feed, corn meal and green corn; condition of stables, clean and neat; yard clean and dry; ventilation, good; water, well.

Fred Schukel—Condition of cows, good; feed, ground oats and bran; condition of stables, not very clean; yard, wet and dirty; ventilation, poor; water, creek and well in yard.

Wm. Hopps—Condition of cows, good; feed, bran, ground corn, oats and green corn; condition of stables, new and clean; ventilation, good; water, well.

Hiram Fairman & Sons—Condition of cows, good; feed, ground oats and corn; condition of stables, clean and whitewashed; condition of yard, clean and dry; ventilation, fair; water, well and spring.

John Goodhand—Condition of cows, fairly good; feed, bran, ground corn and oats; condition of stables, fairly clean; yard, clean and dry; ventilation, poor; water, well and creek.

Mahlon D. Baldwin—Condition of cows, very good; feed, ground oats,

corn and green corn; condition of stables, stone basement, clean and neat; yard, clean and dry; ventilation, good; water, spring.

Louie Kuehn—Condition of cows, good; feed, bran, shorts and green corn; condition of stables, clean; condition of yard, clean and dry; ventilation, fair, water, well.

Arthur Wight—Condition of cows, good; feed, bran, shorts, pea bran and chop; condition of stables, clean and whitewashed and nicely littered; yard, clean and dry; ventilation, fair; water, well.

Fred Limberg—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, clean; yard, clean and dry; ventilation, good; water, well.

John A. Graham—Condition of cows, good; feed, bran, ground corn and oats; condition of stables, clean and neat; yard, dry, a little manure in front of stable doors; ventilation, good; water, city.

Chas. F. Simpson—Condition of cows, good; feed, bran, shorts and green corn; condition of stables, very clean; yard, clean and dry; ventilation, good; water, river.

Wm. Howard—Condition of cows, very good; feed, pea meal; condition of stables, clean and neat; yard, clean and dry; ventilation, good; water, city.

Brinkman & Page—Condition of cows, fairly good; feed, bran and chop; condition of stables, fairly clean; yard, clean and dry; ventilation, fair; water, well.

John E. Smart—Condition of cows, fair; feed, pea bran and green corn; condition of stables, clean; yard, fairly clean; ventilation, good; water, city.

Otis Annes—Condition of cows, good and clean; feed, bran, pea bran, corn meal and hay; condition of stables, very clean and neat, whitewashed; yard, has none; ventilation, good; water, city.

Wm. Paw —Condition of cows, good; feed, pasture, no grain; condition of stables, fairly clean; yard, wet and dirty; ventilation, fair; water, spring and well.

Geo. M. Fair—Condition of cows, good; feed, fodder, corn, no grain; condition of stables, very old and very dirty; yard, dry but dirty; ventilation, poor; water, Black river.

Walter Armitage—Condition of cows, good; feed, ground oats; condition of stables, new and clean; yard, a little wet and dirty; ventilation, poor; water, well.

F. G. Bean—Condition of cows, good; feed, bran and ground oats; condition of stables, clean and whitewashed; yard, dry, some manure in front of door; ventilation, good; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., September 30, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of September, 123 samples of food products have been examined, 59 being pure and 64 adulterated.

R. E. DOOLITTLE,

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	3	2	1
Bacon.....	1	1	0
Baking Powder.....	2	0	2
Butter.....	5	4	1
Candy.....	2	2	0
Chocolate.....	1	1	0
Cinnamon.....	3	0	3
Cloves.....	2	2	0
Cod Fish.....	2	2	0
Coffee.....	1	1	0
Cream of tartar.....	4	0	4
Extracts (flavoring).....	22	6	16
Jelly.....	7	0	7
Maple Syrup.....	1	0	1
Milk.....	16	16	0
Mince Meat.....	1	1	0
Mustard (Dry).....	5	1	4
Mustard (Prepared).....	1	1	0
Pepper.....	9	6	3
Preserves.....	1	1	0
Sausage.....	1	1	0
Sugar.....	2	2	0
Vinegar.....	31	9	22
Totals.....	123	59	64

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

ALLSPICE.

No. K-65. Sample of allspice from Richard Kennedy, Benton Harbor.
Sold (1899) by The Great Atlantic & Pacific Tea Co., Chicago, Ill.
Ash..... 5.52 per cent.
Starch..... 17.60 " "

Contains ground nutmeg.

BAKING POWDER.

No. K-59. Sample of "Roads Tartar Baking Powder" from B. O. Greening, St. Joseph.
Sold (1899) by Roads Baking Powder and Extract Co., Chicago, Ill.
Sodium bicarbonate.....
Corn starch.....
Acid phosphate of lime.....
Alum.....

An alum phosphate powder; contains no tartar.

No. K-76. Sample from E. E. Hewett, Rockford.
Sold (1899) by J. H. Bell & Co., Chicago, Ill.
Sodium bicarbonate.....
Corn starch.....
Alum.....
Acid phosphate of lime.....

Package is not labeled with the name and address of the manufacturer in legible type.

BUTTER.

No. B-209. Sample from Charles P. Downey, Hotel Downey, Lansing.
Reichert-Meissl Number..... 0.30
Oleomargarine.

CINNAMON.

No. G-676. Sample of cinnamon from John W. Davis & Son, Mackinac Island.
Sold (1898) by Franklin MacVeagh & Co., Chicago, Ill.
Ash..... 5.00 per cent.
Starch..... 28.85 " "

Adulterated with cooked wheat starch.

No. K-66. Sample of cinnamon from original package at Benton Harbor.
 Sold (1899) by Thompson & Taylor Spice Co., Chicago, Ill.
 Producer, Thompson & Taylor Spice Co., Chicago, Ill.

Total ash	7.35 per cent.
Insoluble ash (sand)	4.07 " "
Starch	21.60 " "

Ground cassia adulterated with cooked wheat starch.

No. K-72. Sample of cinnamon (Brand "Monarch") from H. W. Chamberlain, Plainwell.
 Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Ash	4.75 per cent.
Starch	17.05 " "

Adulterated with cooked wheat starch.

CREAM OF TARTAR.

No. A-297. Sample of cream of tartar from the Parks Mercantile Co., Crystal Falls.
 Sold (1899) by Joannes Bros. & Co., Green Bay, Wis.

Cream of tartar	4.24 per cent.
Corn starch	4.96 " "
Acid phosphate of lime	35.72 " "
Sulphate of lime	47.72 " "
Water	7.34 " "

Adulterated with corn starch and acid phosphate and sulphate of lime.

No. G-696. Sample of cream of tartar from Jos. Thomson & Co., Munising.
 Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Cream of tartar	45.11 per cent.
Corn starch	2.56 " "
Acid phosphate of lime	8.78 " "
Sulphate of lime	37.31 " "
Water	6.24 " "

Adulterated with corn starch and acid phosphate and sulphate of lime.

No. G-711. Sample of cream of tartar (Brand "Perfectly Pure") from Edward Leiblein, Hancock.

Sold (1899) by The J. P. Dieter Co., Chicago, Ill.

Cream of tartar	78.22 per cent.
Sodium sulphate	20.48 " "
Water	1.30 " "

Adulterated with sodium sulphate (glauber salt).

No. G-712. Sample of cream of tartar (Brand "Absolutely Pure") from Frank H. Rogers Co., Arcadian Mine.

Sold (1898) by Steel-Wedeles Co., Chicago, Ill.

Cream of tartar	97.90 per cent.
Corn starch	2.10 " "

Adulterated with corn starch.

EXTRACTS.—(Flavoring.)

No. A-255. Sample of vanilla extract (Brand "Home") from W. L. Middlebrook, Manistique.

Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Producer, Grant Chemical Works.

Vanillin	0.046 per cent.
Coumarin	0.076 " "
Vanilla resin	None.
Organic acids and gums	None.
Color	Artificial.

An artificial preparation.

No. A-261. Sample of coumarin (Brand "French Standard Compound") from Hoyt Grocer Co., Gladstone.

Sold (1899) by Anson & Co., Milwaukee, Wis.

Vanillin	None.
Coumarin	0.057 per cent.
Organic acids, gums and resin	None.
Color	Artificial.

An artificial preparation of coumarin.

No. A-273. Sample of coumarin compound from Axel Aronson, Norway.

Sold (1899) by A. J. Hilbert & Co., Milwaukee, Wis.

Vanillin	None.
Coumarin	0.195 per cent.
Organic acids, gums or resin	None.
Color	Artificial.

An artificial preparation of coumarin.

No. A-276. Sample of tonka vanilla (Brand "Globe") from Rusky Bros., Iron Mountain.

Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Vanillin	0.283 per cent.
Coumarin	0.108 " "
Organic acids, gums or resin	None.
Color	Artificial.

An artificial preparation.

No. A-277. Sample of vanilla extract (Brand "Champion") from A. Wolfert, Iron Mountain.

Sold (1899) by Joannes Bros. & Co., Green Bay, Wis.

Vanillin	0.091 per cent.
Coumarin	0.047 " "
Color	Artificial.

Adulterated with coumarin and artificially colored.

No. B-200. Sample of pistachio extract from A. N. Palmeter, Ashley.

(Old stock.)

Solid extract	0.06 per cent.
Alcohol	
Compound ethers	
Artificial coloring	

An artificial preparation.

No. G-683. Sample of vanilla extract (Brand "Currey's") from Abram H. Eddy, Sault Ste. Marie.

Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Producers, Puhl-Webb Co., Chicago, Ill.

Vanillin.....	0.018 per cent.
Coumarin.....	0.057 " "
Vanilla resin.....	None.
Color.....	Artificial.

An extract of tonka containing added vanilla and artificial coloring matter.

No. G-686. Sample of vanilline and tonka extract (Brand "Economy") from Alfred V. Godin, Sault Ste. Marie.

Sold (1899) by Durand & Casper Co., Chicago, Ill.

Vanillin.....	0.039 per cent.
Coumarin.....	0.139 " "
Color.....	Artificial.

An artificial preparation.

No. G-697. Sample of vanilla and tonka extract (Brand "Huron") from Enos Pitipren, Grand Marais.

Sold (1899) by Phelps, Brace & Co., Detroit.

Producer, Huron Mfg. Co., Detroit.

Vanillin.....	None.
Coumarin.....	0.063 per cent.
Vanilla resin.....	None.
Color.....	Artificial.

An extract of tonka bean artificially colored.

No. G-708. Sample of vanilla extract (Brand "Red Cross") from James A. McLachlan, Chassell.

Sold (1899) by The J. P. Dieter Co., Chicago, Ill.

Producer, The J. P. Dieter Co., Chicago, Ill.

Vanillin.....	0.044 per cent.
Coumarin.....	None.
Vanilla resin.....	None.
Color.....	Artificial.

An artificial preparation.

No. G-713. Sample of vanilla extract from John Peiffer, Lake Linden.

Sold (1899) by E. B. Miller & Co., Chicago, Ill.

Producer, E. B. Miller & Co., Chicago, Ill.

Vanilla.....	0.123 per cent.
Coumarin.....	0.019 " "

Adulterated with coumarin.

No. K-55. Sample of vanilla extract (Brand "English Extract Vanilla") from Jas. H. Kenney, South Haven.

Sold (1899) by Kramer & Son, La Porte, Ind.

Producer, Taylor Chemical Laboratory.

Vanillin.....	0.007 per cent.
Coumarin.....	0.051 " "
Organic acids, gums or resin.....	None.
Color.....	Artificial.

An artificial preparation.

No. K-62 Sample of vanilla extract (Brand "Gurney's Vanilla") from Michaels & Berney, Benton Harbor.

Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Producers, Puhl-Webb Co., Chicago, Ill.

Vanillin.....	None.
Coumarin.....	0.043 per cent.
Vanilla resin.....	None.
Color.....	Artificial.

Extract of tonka, artificially colored.

No. K-63. Sample of vanilla extract (Brand "A. & P. Vanilla") from Robert Kennedy, Benton Harbor.

Sold (1899) by The Great Atlantic and Pacific Tea Co., Chicago, Ill.

Vanillin.....	None.
Coumarin.....	0.028 per cent.
Vanilla resin.....	None.
Color.....	Artificial.

Extract of tonka, artificially colored.

No. L-2. Sample of apricot extract (Brand "Steel Unexcelled Extract") from Mrs. A. Kiely, Roscommon.

Producer, Charles Steel, Wyandotte.

Solid extract.....	0.08 per cent.
Alcohol.....	.....
Compound ethers.....	.....
Artificial coloring.....	.....

An artificial preparation.

No. L-3. Sample of nectarine extract (Brand "Steel Unexcelled Extract") from Mrs. A. Kiely, Roscommon.

Producer, Charles Steel, Wyandotte.

Solid extract.....	0.07 per cent.
Alcohol.....	.....
Compound ethers.....	.....
Artificial coloring.....	.....

An artificial preparation.

FRUIT JELLY AND FRUIT BUTTER.

No. A-260. Sample of peach butter (Brand "Champion") from F. E. Davis & Co., Dundee.

Sold (1899) by The Paddock-Overmyer Co., Toledo, Ohio.

Producer, Champion Syrup Refining Co., Indianapolis, Ind.

Water.....	39.56	per cent.
Ash.....	0.88	" "
Reducing sugar.....	27.06	" "
Sucrose.....	None.	

An imitation fruit butter.

No. A-281. Sample of currant jelly from J. L. Babcock, Marquette.

Sold (1899) by John A. Tolman Co., Chicago, Ill.

Producer, Chicago Syrup Refining Co., Chicago, Ill.

Water.....	22.22	per cent.
Ash.....	0.61	" "
Reducing sugar, before inversion.....	45.70	" "
Reducing sugar, after inversion.....	48.00	" "
Polarization before.....	+121.0	degrees.
" after.....	+120.0	"
Starch paste.....	Present.	

An imitation fruit jelly.

No. G-651. Sample of peach butter from Jos. P. Delisle, Essexville.
Sold (1899) by Walsh, Tanner & Daily, West Bay City.
Producer, William Bros. & Charbonneau, Detroit.

Water	59.82 per cent.
Ash	1.02 " "
Sucrose by polariscope	1.13 " "
Reducing sugar before inversion	21.94 " "
Reducing sugar after inversion	25.00 " "

An imitation fruit butter.

No. G-652. Sample of plum butter (Brand "Michigan Fruit Butter") from Jos. P. Delisle, Essexville.
Sold (1899) by Walsh, Tanner & Daily, West Bay City.
Producer, The E. G. Daily Co., Detroit.

Water	55.01 per cent.
Ash	1.02 " "
Sucrose by polariscope	5.17 " "
Reducing sugar before inversion	24.76 " "
Reducing sugar after inversion	29.06 " "

An imitation fruit butter.

No. G-667. Sample of apple butter from C. D. Richardson, Bay City.
Sold (1898) by Meisel & Goeschel, Bay City.
Producer, Williams Bros. & Charbonneau, Detroit.

Water	56.83 per cent.
Ash	0.62 " "
Sucrose by polariscope	5.25 " "
Reducing sugar before inversion	22.25 " "
Reducing sugar after inversion	28.15 " "

An imitation fruit butter.

No. G-685. Sample of quince-flavored jelly from Wm. W. Campbell, Sault Ste. Marie.
Sold (1899) by Lutz & Schramm Co., Allegany, Pa.
Producer, Lutz & Schramm Co., Allegany, Pa.

Water	29.10 per cent.
Ash	0.65 " "
Reducing sugar before inversion	40.00 " "
Reducing sugar after inversion	56.18 " "
Polarization before inversion	+ 43.0 degrees.
Polarization after inversion	+ 22.0 " "
Starch paste	Present.

An imitation fruit butter.

No. G-716. Sample of red currant jelly (Brand "Genesee") from Hodges & Opal, South Lake Linden.
Sold (1899) by Sprague, Warner & Co., Chicago, Ill.

Water	24.50 per cent.
Ash	0.53 " "
Reducing sugar before inversion	26.70 " "
Reducing sugar after inversion	30.80 " "
Polarization before inversion	+ 100.0 degrees.
Polarization after inversion	+ 95.5 " "

An imitation fruit jelly.

MAPLE SYRUP.

No. A-295. Sample of maple syrup (Brand "Buckeye") from John Utberg, Republic.
 Sold (1898) by **Smith, Thorndike & Brown, Milwaukee, Wis.**
 Producer, **Lakeside Preserving Works, Chicago, Ill.**

Water	25.48 per cent.
Ash	0.33 " "
Reducing sugar before inversion	28.27 " "
Reducing sugar after inversion	32.04 " "
Polarization before inversion	+ 136.0 degrees.
Polarization after inversion	+ 126.5 "

Glucose flavored with maple syrup.

MUSTARD (Dry).

No. A-294. Sample of mustard from Joseph Mitchell & Co., Negaunee.
 Sold (1899) by **Bodden & Heath, Milwaukee, Wis.**

Ash	3.94 per cent.
Wheat starch	45.36 " "
Mustard .....	.....

Adulterated with wheat starch.

No. G-706. Sample of mustard from John B. Crebassa, Baraga.
 Sold (1899) by **John A. Tolman Co., Chicago, Ill.**

Ash	5.87 per cent.
Wheat starch	21.63 " "
Mustard .....	.....

Adulterated with wheat starch.

No. K-53. Sample of mustard from Jas. A. Alibers, Saugatuck.
 Sold (1899) by **Merriam, Collins & Dexter, Chicago, Ill.**

Ash	4.56 per cent.
Wheat starch	35.16 " "
Mustard .....	.....
Color	Turmeric.

Adulterated with wheat starch and colored with turmeric.

No. K-64. Sample of mustard from Robert Kennedy, Benton Harbor.
 Sold (1899) by **The Great Atlantic and Pacific Tea Co., Chicago, Ill.**

Ash	3.93 per cent.
Wheat starch	37.50 " "
Mustard .....	.....
Color	Turmeric.

Adulterated with wheat starch and colored with turmeric.

PEPPER.

No. K-54. Sample of pepper from James W. Kinney, South Haven.
 Sold (1899) by **Kramer & Son, La Porte, Ind.**
 Producer, **Thompson & Taylor Spice Co., Chicago, Ill.**

Ash	6.02 per cent.
Starch	40.17 " "
Peperine and resin	5.81 " "

Adulterated with wheat.

No. K-61. Sample of pepper from A. H. Conkey & Son, Benton Harbor.

Sold (1899) by Kidd, Dater & Price Co., Benton Harbor.

Total ash	9.07	per cent.
Insoluble ash (sand)	2.97	" "
Starch	28.12	" "
Peperine and resin	5.91	" "

Adulterated with rice and contains an excessive amount of sand.

No. K-69. Sample of pepper (Brand "Royal Blue") from The Grange Store, Allegan.

Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Total ash	8.85	per cent.
Insoluble ash (sand)	2.50	" "
Starch	34.72	" "
Peperine and resin	6.10	" "

Adulterated with corn meal.

VINEGAR.

No. A-293. Sample of cider vinegar from Harris & Mathews, Negaunee.

Sold (1899).

Producers, W. M. Barrett & Co., Chicago, Ill.

Specific gravity	1.0063.	
Acid as acetic	3.89	per cent.
Total solids	0.47	" "
Ash	0.05	" "

Distilled vinegar. Artificially colored and below the standard in acid strength.

No. A-296. Sample of cider vinegar (Brand "Niagara County") from B. Levine, Republic.

Sold (1899).

Producer, W. M. Barrett & Co., Chicago, Ill.

Specific gravity	1.0086	
Acid as acetic	4.48	per cent.
Total solids	0.32	" "
Ash	0.02	" "
Color	Caramel.	

Distilled vinegar artificially colored.

No. A 300. Sample of cider vinegar from original package at Jackson.

Sold (1899) by Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity	1.0190	
Acid, as acetic	4.20	per cent.
Total solids	4.44	" "
Ash	0.38	" "

Ash is not the ash of pure cider vinegar.

No. C-368. Sample of cider vinegar (Brand "Fermented Cider Vinegar") from original package at Saginaw.

Sold (1899) by Oakland Vinegar & Pickle Co., Highland.

Specific gravity	1.0150	
Acid as acetic	3.57	per cent.
Total solids	2.53	" "
Ash	0.25	" "

Below the standard in acid strength and ash is not cider vinegar ash.

No. C-389. Sample of cider vinegar (Brand "Pure Cider Vinegar") from original package at Bay City.

Sold (1899) by Oakland Vinegar & Pickle Co., Highland.

Specific gravity.....	1.0165
Acid as acetic.....	3.43 per cent.
Total solids.....	3.16 " "
Ash.....	0.22 " "

Below the standard in acid strength and ash, and ash is not cider vinegar ash.

No. B-192. Sample of cider vinegar (Brand "Pure Cider Vinegar") from original package at Owosso.

Sold (1899) by Phipps, Penoyer & Co., Saginaw.

Producer, Oakland Vinegar & Pickle Co., Highland.

Specific gravity.....	1.0167
Acid as acetic.....	3.62 per cent.
Total solids.....	3.48 " "
Ash.....	0.28 " "

Below the standard in acid strength.

No. B-197. Sample of cider vinegar (Brand "Pure Cider Vinegar") from G. L. Thornton, Marion.

Specific gravity.....	1.0143
Acid as acetic.....	2.37 per cent.
Total solids.....	2.97 " "
Ash.....	0.14 " "

Below the standard in acid strength and ash.

No. B-201. Sample of cider vinegar (Brand "Pure Cider Vinegar") from C. L. Bartlett & Co., Flint.

Sold (1899).

Producer, Oakland Vinegar & Pickle Co., Highland.

Specific gravity.....	1.0179
Acid as acetic.....	4.20 per cent.
Total solids.....	2.74 " "
Ash.....	0.38 " "

Ash is not the ash of pure cider vinegar.

No. B-202. Sample of cider vinegar (Brand "Pure Cider Vinegar") from Smith, Bridgeman & Co., Flint.

Sold (1899) Producer, Oakland Vinegar & Pickle Co., Highland.

Specific gravity.....	1.0181
Acid as acetic.....	4.68 per cent.
Total solids.....	3.35 " "
Ash.....	0.34 " "

Ash is not the ash of pure cider vinegar.

No. B-203. Sample of cider vinegar (Brand "Pure Cider Vinegar") from E. O. Pierce & Son, Flint.

Sold (1899) Producer, Oakland Vinegar & Pickle Co., Highland.

Specific gravity.....	1.0176
Acid as acetic.....	4.20 per cent.
Total solids.....	2.98 " "
Ash.....	0.38 " "

Ash is not the ash of pure cider vinegar.

No. B-204. Sample of cider vinegar (Brand "Pure Cider Vinegar") from Samuel Moffett, Flint.

Sold (1899) Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity.....	1.0182
Acid as acetic.....	4.13 per cent.
Total solids.....	3.35 " "
Ash.....	0.33 " "

Ash is not the ash of pure cider vinegar.

No. B-206. Sample of cider vinegar (Brand "Pure Cider Vinegar") from Hall Bros., Owosso.

Sold (1899) by Wiard & Son, Ypsilanti.

Specific gravity.....	1.0140
Acid as acetic.....	4.08 per cent.
Total solids.....	2.50 " "
Ash.....	0.23 " "

Below the standard in ash.

No. B-207. Sample of cider vinegar from P. C. Fires, Durand.

Sold by A. N. Grover, Durand.

Specific gravity.....	1.0066
Acid as acetic.....	1.85 per cent.
Total solids.....	2.49 " "
Ash.....	0.41 " "

Below the standard in acid strength.

No. B-208. Sample of cider vinegar (Brand "Pure Cider Vinegar") from F. J. Stocken, Byron.

Sold (1899) by Fieldback & Co., Toledo.

Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity.....	1.0175.
Acid, as acetic.....	3.65 per cent.
Total solids.....	3.40 " "
Ash.....	0.23 " "

Below the standard in acid strength and ash, and ash is not the ash of pure cider vinegar.

No. G-707. Sample of cider vinegar from the Baraga Store Co., Baraga.

Sold (1899) by Roundy, Peckham & Co., Milwaukee.

Producer, Roundy, Peckham & Co., Milwaukee, Wis.

Specific gravity.....	1.0183.
Acid, as acetic.....	2.54 per cent.
Total solids.....	4.94 " "
Ash.....	0.34 " "

Cider vinegar below the standard in acid strength.

No. G-710. Sample of cider vinegar (Brand "Crawford's") from Chas. P. Hill, Houghton.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Specific gravity.....	1.0157.
Acid, as acetic.....	6.81 per cent.
Total solids.....	2.68 " "
Ash.....	0.17 " "

Below the standard in ash.

No. G-715. Sample of cider vinegar (Brand "Stuben County, N. Y.") from Nicholas Reding, South Lake Linden.

Sold (1899) by Sprague, Warner & Co., Chicago, Ill.

Specific gravity.....	1.0139.
Acid, as acetic.....	4.15 per cent.
Total solids.....	2.97 " "
Ash.....	0.10 " "

Below the standard in ash.

No. G-717. Sample of cider vinegar from John Kline, South Lake Linden.
Sold (1899) by W. M. Barrett & Co., Chicago.

Specific gravity.....	1.0062.
Acid, as acetic.....	3.25 per cent.
Total solids.....	0.30 " "
Ash.....	0.02 " "
Color.....	Caramel.

Distilled vinegar below standard in acid strength and artificially colored.

No. K-56. Sample of cereal vinegar (Brand "XXX Cereal Vinegar") from Jas. W. Kinney, South Haven.

Sold (1899) by Kramer & Son, La Porte, Ind.

Specific gravity.....	1.0084
Acid as acetic.....	5.06 per cent.
Total solids.....	0.39 " "
Ash.....	0.19 " "
Color.....	Caramel.

Distilled vinegar artificially colored. Improperly labeled.

□ No. K-70. Sample of cider vinegar (Brand "Red Star") from E. B. Bailey, Allegan.
Sold (1899) by Leroux Cider & Vinegar Co., Toledo, Ohio.

Producer, Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0148
Acid as acetic.....	3.79 per cent.
Total solids.....	2.95 " "
Ash.....	0.36 " "

Below the standard in acid strength.

No. K-74. Sample of cider vinegar (Brand "Pure Cider Vinegar") from original package at Howard City.

Sold (1899) by Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity.....	1.0178
Acid as acetic.....	4.22 per cent.
Total solids.....	3.40 " "
Ash.....	0.39 " "

Ash is not the ash of pure cider vinegar.

No. L-1. Sample of cider vinegar from Mrs. A. Kiely, Roscommon.
Producer, Joseph Gibbons, Blaine P. O., Mich.

Specific gravity.....	1.0006
Acid as acetic.....	0.43 per cent.
Total solids.....	1.35 " "
Ash.....	0.24 " "

Below the standard in solids and acid strength.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognize^d as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

THE RELATIVE VALUE OF BEET AND CANE SUGARS.

During the last few months this Department has received frequent letters asking about the relative value of beet and cane sugars. The information requested is, whether the sugars now being manufactured in Michigan factories from sugar beets grown in this State are as valuable for general consumption as the so-called cane sugars sold in our markets and not produced in Michigan?

It is clearly shown that some hidden influences are at work to depreciate in the popular mind the value of Michigan sugar products. For the purpose of correcting any false understanding which may be produced through the efforts referred to, the Department has requested Dr. R. C. Kedzie, at the head of the Chemical Department of the State Agricultural College, to furnish us for publication in the bulletin the facts concerning beet sugar in distinction from cane sugar. Dr. Kedzie's long and honorable service in his college position, reinforced by his extraordinary experience in and investigation of the sugar question, certainly makes him the equal of any authority upon this subject.

Below will be found Dr. Kedzie's statement, and also one from the Department chemists upon the same question. These reports show conclusively that the Michigan beet sugar is the equal of any sugar manufactured, regardless of the substance from which it is taken.

The Michigan beet sugar industry seems destined to be one of a great state's greatest interests, and the truth concerning the value of this product needs no further demonstration than that given it by the chemists' report found below:

Michigan Agricultural College,
Chemical Department,
October 30, 1899.

Hon. Elliot O. Grosvenor, *Dairy and Food Commissioner.*

SIR—In reply to your note asking for a statement in regard to the differences between beet sugar as made in Michigan and the so-called

cane sugar of commerce, I answer that in chemical composition and in dietetic value, *they are the same*. The chemical composition is the same— $C_{12}H_{22}O_{11}$ —and all their chemical reactions are the same.

Their physiological properties and dietetic uses are identical for both sugars; the same sweetening power, and the value for food is the same. *It is the same sugar*, though derived from different plants.

Many ladies have visited my laboratory in months past, and it has been a pleasure to show them Michigan beet sugar. The conversation often fell into this line: "This is beet sugar made in Michigan? Yes. Is it sweet; can we sweeten things with it; use it on the table? Certainly. Well it does taste sweet, and it seems like the sugar we buy at the store. How long have you used granulated sugar? Oh, a year or more. Well in all that time you have undoubtedly used no other white sugar except that made from beets. Cane sugar can only be made in tropical countries. Before commerce was disturbed by the Spanish war, only two-fifths of the world's supply of sugar was made from sugar cane, the other three-fifths came from sugar beets. But after war arose between Spain and the United States, no more sugar came from the West Indies, and none from the Philippines. All the sugar made in Louisiana is required to supply the demand in that region, while the sugar made in the Sandwich Islands never crossed the Rocky Mountains. Such being the case, where will you look for cane sugar in commerce? Our people have got their sugar from Germany, France and other European countries; this was all beet sugar, and you have used beet sugar right along."

The most marked difference between the beet sugar made in this country from the European sugar is that our manufacturers are so skillful that they make sugar so pure that it is ready for use on the table just as it comes from the factory, requiring no refining process, while the foreign sugars must be refined before fit for use. Our skillful sugar makers dispense with the refiner and escape the grasp of the sugar trust. If our sugar was so impure as to require refining, and thus pay tribute to the sugar trust, perhaps there would be less whispering about the poor quality of the beet sugar as compared with the cane.

Beet sugar and cane sugar are identically the same, and the beet sugar I have seen made in Michigan is fit to go on the table of a king—i. e., a Michigan farmer.

Yours faithfully,
R. C. KEDZIE.

Dairy and Food Department,
Chemical Laboratory,
Lansing, October 31, 1899.

Hon. Elliot O Grosvenor, *Dairy and Food Commissioner* :

DEAR SIR—In answer to your request, I respectfully submit the following report on the relative value of beet and cane sugars:

The granulated sugar of commerce commonly known as cane sugar is designated as sucrose by the chemist. This sugar differs from all other sugars in all its properties, physical and chemical. The sucrose from the sugar cane is identical with the sucrose derived from the sugar beet.

Cane sugar, sucrose, or simply sugar as it is known to commerce and in the household, exists dissolved in many vegetable juices. It is found in the stems and roots of all grasses, especially in the sugar cane and sorghum; in fleshy roots, as beet, carrot, turnip and sweet potato; in the sap of trees, as the date palm and sugar maple; in almost all sweet fruits and in the nectar of flowers; but in only a few of these is the proportion of sugar large enough to make profitable its separation from the other substances which these juices hold in solution. The two principal sources are the sugar cane and the sugar beet.

The sugar cane is a gigantic jointed grass very much like our corn, except that it does not ear or tassel out. It is a native of Eastern India and China, but is now grown extensively in the tropical and sub-tropical regions of both hemispheres. Sugar from the sugar cane was probably known in China some two thousand years before it was used in Europe. When merchants began to trade in the Indies, it was brought westward with spices and perfumes and other rare and costly merchandise, and was used for a long time exclusively in the preparation of medicines. It was probably first used as an article of diet in the West Indies, where the sugar cane was introduced from Portugal soon after the islands were discovered by Columbus.

The sugar consumed in this and other countries up to 1850 was nearly all derived from the sugar cane, but at the present time, over two-thirds of the sugar used is from the sugar beet. It was in 1747 that Marggraf, a German chemist, first discovered that beets contained crystallizable sugar identical with that of the sugar cane. In 1776, Achard, a pupil of Marggraf, erected the first factory for beet sugar, but the two or three per cent of sugar that could be extracted by the methods then in use was too small for commercial success. But in 1806, a new stimulus was given the industry by the large rewards offered by Napoleon for a sugar that could be used on the table in the place of cane sugar shut out by the embargo acts of the war between France and Germany. The methods of extraction were rapidly improved. But at that time the percentage of sugar in the beet was small (six per cent) and it was separated with difficulty from the many non-sugar constituents present. Since that time a beet has been gradually developed having a higher percentage of sugar and less of the undesirable impurities. So that from the six per cent of sugar as found by Marggraf the sugar beet of good quality now contains fifteen per cent or more; and where it then took eighteen tons of beets to make one ton of sugar, it now takes less than one-half of that amount. Thus the cultivation of the beet has in a single generation shifted the center of the sugar industry from the tropic to the temperate zone.

The methods used in the manufacture of sugar are practically the same whether from the beet or from the cane. In brief, the juice containing the sugar is expressed or extracted from the cane or beet, treated to remove non-saccharine substances which prevent crystallization, evaporated in a vacuum apparatus, the sugar crystallized, and then separated from the molasses in centrifugals. The sugar thus obtained known as raw sugar, contains some impurities from which it is separated by the refining process. Raw sugar from these various sources takes on in each the character of the impurities from which it has not yet been freed. From raw sugar, the pure sugar of the market is crystallized out,

and in every case the sugar is identical in chemical composition, appearance, and properties, whether it is derived from the beet or from sugar cane. By no chemical test can pure crystallized sugar from these different sources be distinguished as to its origin. There is a popular impression to the contrary, however, and it is often asserted that beet sugar has less sweetening power, but this cannot be true and is pure prejudice. Methods of refining raw sugar have been so improved within the last few years that it may be truly said that few products are so nearly pure chemically.

No case of adulterated sugar sold in Michigan has ever been found by this Department. This is due to the low price of sugar, and so long as the price of sugar continues at its present figure, it may be said that the danger of adulteration is extremely small.

It follows that the sugar produced from the sugar beets grown in Michigan is in every way the equal of any sugar upon this or any other market.

Respectfully submitted,

R. E. DOOLITTLE,

State Analyst.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	11
Cases nolle prossed*.....	4

CASES DISPOSED OF.

Before Examining Magistrates, 5 {	Defendants bound over to trial courts....	5
	Defendants discharged on examination..	0
In Trial Courts.....10 {	Defendants convicted.....	9
	Defendants acquitted.....	1
Cases pending November 1, 1899.....		13

PROCEEDINGS HAD DURING THE MONTH OF OCTOBER, 1899.

Complaint was made on the 6th inst., in police court of the city of Bay City, against the Oakland Vinegar and Pickle Co., of Highland, Mich., defendant being charged with having sold adulterated vinegar. The case came up for trial in said court on the 16th inst. Defendant was convicted. A fine of \$50.00 was imposed by the court.

The examination in the case pending in justice court of the city of Reed City against E. H. Salisbury, representing J. H. Conrad & Co., of Chicago, Ill., charged with having sold adulterated mustard, was held on the 2nd inst. Defendant was bound over to the circuit court for the county of Osceola for trial.

On the 31st inst., the case came up for trial in said court. Defendant entered a plea of guilty. A fine of \$40.00 was imposed by the court.

In the case pending in the circuit court for the county of Dickinson, against William E. Collette, representing Joannes Bros. Co., of Green Bay, Wis., charged with having sold adulterated cream of tartar, the defendant on the 9th inst., entered a plea of guilty to said charge. A fine of \$40.00 was imposed by the court.

The case pending in the circuit court for the county of Ingham, against John Robson, defendant being charged with having sold adulterated

* Oleomargarine cases, Statute repealed.

cream of tartar, came up for trial before Judge Person and a jury in said court on the 9th inst. The case was concluded on the 10th inst., defendant being convicted. Sentence stayed pending an appeal to the Supreme Court.

In the case pending in justice court of the city of Menominee against Frank Penberthy, representing Penberthy, Cook & Co., of Menominee, Mich., charged with having sold adulterated cream of tartar, defendant, on the 13th inst., waived examination and was bound over to the circuit court for the county of Menominee for trial.

The cases pending in justice court of the city of Lansing against Isaac M. Brown, Charles P. Downey, Frank Wentworth and Robert M. Renner, in which defendants were charged with having served oleomargarine without displaying the proper signs, were nolle prossed by the department on the 27th inst., for the reason that the statute under which the prosecutions were brought had been repealed by the taking effect of a subsequent enactment. The second case brought against Charles P. Downey, being a complaint under the new statute, was adjourned until November 24.

INSPECTIONS.

The following places were visited during the month of October by the department's inspection force:

Ida, Strassburg, Hillsdale, Monroe, Homer, Kalamazoo, Dowagiac, Paw Paw, Jackson, Dirborough, Ann Arbor, Chesaning, Oakley, Henderson, Laingsburg, Durand, Holly, Fenton, Highland, Flint, Vernon, Hancock, Lansing, Ontonagon, Rockland, Sidnaw, Greenland, Mass City, Ewen, Grand Haven, Lowell, Lake Odessa, Grand Ledge, Charlotte, Nashville, Sparta, Kent City, Casnovia, Newaygo, White Cloud, Fremont, Detroit.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of October, 1899:

At Pontiac:

J. K. Grove—Condition of cows, good; feed, bran, corn meal and fodder corn; condition of stables, fairly clean; yard, clean and dry; ventilation, fair; water, spring; milk room, clean.

L. A. Young—Condition of cows, good; feed, gluten meal, bran and fodder corn; condition of stables, not very clean; yard, clean and dry; ventilation, fair; water, spring and well.

Irving S. Taylor—Condition of cows, good; feed, barley sprouts and white meal; condition of stables, good and clean; yard, clean and dry; ventilation, poor; water, well; strains milk in stable; cooling room, clean.

H. J. Haines—Condition of cows, good; feed, bran and white meal; condition of stables, clean and neat; yard, clean and dry; ventilation, good; water, well; milk room, clean.

Mrs. Etta E. Robert—Condition of cows, good; feed, bran, middlings, hay and corn fodder; condition of stables, very clean and whitewashed; ventilation, good; water, city.

R. Bartlett & Sons—Condition of cows, fair; feed, white meal; condition of stables, fairly clean; floors, poor; part of ceiling dirty; yard, clean and dry; ventilation, fair; water, city; strains milk in stable; milk room clean.

At Ann Arbor:

James Murphy—Condition of cows, good; feed, pasture, does not feed grain at present; condition of stables, old, not very clean, uses wood ashes on floor; yard, dry and fairly clean; ventilation, poor; water, well; sells milk to the Sanitary Milk Co.

William G. Price—Condition of cows, good; feed, bran and fodder corn; condition of stables, clean and whitewashed; yard, clean and dry; ventilation, fair; water, well; milk room clean.

Fred Hutzel—Condition of cows, good; feed, fodder corn; stables, clean; yard, clean and dry; ventilation, good; water, well; uses an aerator; sells milk to the Sanitary Milk Co.

Frank H. Ticknor—Condition of cows, good; feed, bran and fodder corn; condition of stables, clean, nicely littered; uses plaster on floors; ventilation, good; water, spring and well; milk house, very clean; uses an aerator.

Walter Lathrop—Condition of cows, good; feed, coarse middlings; stables, clean; yard, clean and dry; ventilation, fair; water, well and spring; aerates milk in stable; sells to Sanitary Milk Co.

C. W. Rose—Condition of cows, good; feed, fodder corn; condition of stables, very clean; yard, clean and dry; ventilation, fair; water, spring and well; milk house, clean; uses an aerator.

W. G. Darling—Condition of cows, good; feed, hay and fodder corn; condition of stables, rather dirty; yard, dry and fairly clean; ventilation, fair; water, well and spring; milk room clean; uses an aerator; sells milk to Sanitary Milk Co.

T. Chandler—Condition of cows, good; feed, bran; condition of stables, fairly clean; yard, wet and dirty; ventilation, fair; water, well and spring; milk house, clean; uses an aerator; sells milk to Sanitary Milk Co.

Geo. Bonet—Condition of cows, good; feed, barley meal, pumpkins and hay; stables, clean; uses lime on floor; yard a little wet but fairly clean; ventilation, fair; water, well; sells milk to Frank Ticknor.

Herman W. Rayer—Condition of cows, good; feed, ground rye and oats; stables, clean, uses lime on floors; yard, a little wet but clean; ventilation, fair; water, well; milk house, clean; uses an aerator.

Dick Kellogg—Condition of cows, good; stables, clean; yard, clean and dry; ventilation, good; water, well; sells milk to Rayer.

Geo. E. Smith—Condition of cows, very good; feed, fodder corn; stables, clean and neat; yard, dry and fairly clean; ventilation, good; water, well; sells milk to Price; milk room clean and good.

Fred B. & C. Braun—Condition of cows, good; feed, bran and fodder corn; stables, clean, floors nicely littered; yard, clean and dry; ventilation, good; water, well; milk room clean and good; uses an aerator; sells milk to Sanitary Milk Co.

E. A. Matteson—Condition of cows, good; feed, bran and corn; stables, not very clean; uses lime on floors; yard, clean and dry; ventilation, fair; water, well; milk room fairly clean; sells milk to Sanitary Milk Co.

H. H. Camp—Condition of cows, good; feed, shorts; stables, very dirty, ceilings dusty and covered with cobwebs; yard, dry but dirty; ventilation, poor, water, well; sells milk to Sanitary Milk Co.

E. Popkins & Sons—Condition of cows, good; stables, fairly clean; part of stables has no floor; ceiling, dusty; feed, bran and fodder corn; yard, clean and dry; ventilation, fair; water, well; milk room, clean and neat; uses aerator in barn; sells milk to Sanitary Milk Co.

I. T. Willetts—Condition of cows, good; feed, ground corn and oats; stables, clean, floor rather poor and dirty; yard, dry and fairly clean; ventilation, good; water, well; milk room clean; uses an aerator; sells milk to Sanitary Milk Co.

Geo. A. Wirth—Condition of cows, good; feed, pumpkins, corn and stalks; stables, fairly clean; yard, clean and dry; ventilation, fair; water, well; sells milk to Sanitary Milk Co.

S. Horning—Condition of cows, good; stables, dirty; yard, clean and dry; ventilation, poor; water, well; sells milk to Sanitary Milk Co.

Clinton Allmendinger—Condition of cows, good; feed, corn meal and fodder corn; stables, old and dirty; yard, clean and dry; ventilation, poor; water, well; sells milk to Sanitary Milk Co.

Edward Hammell—Condition of cows, good; feed, fodder corn; stables, in good condition but a little dirty; yard, dry but dirty; ventilation, fair; water, well; sells milk to Sanitary Milk Co.

Geo. W. Lake—Condition of cows, good; feed, fodder corn; stables, very dirty; yard, clean and dry; ventilation, poor; water, well; sells milk to Sanitary Milk Co.

David Van Giessen—Condition of cows, good; feed, fodder corn; stables, clean and in fair condition; ventilation, fair; yard, dry and fairly clean; water, spring and well.

Chas. Mills—Condition of cows, good; feed, fodder corn; stables, fairly clean; yard, clean and dry; ventilation, fair; water, well; milk room clean; uses an aerator.

August C. Behringer—Condition of cows, good; feed, bran and fodder corn; stables, clean and nicely littered; yard, clean and dry; ventilation, fair; water, well; milk house, clean.

Mrs. Sarah Roberts—Condition of cows, good; feed, bran and clover hay; stables, very clean and neat; yard, very dry and clean; ventilation, good; water, well.

C. L. Toumy—Condition of cows, good; feed, shorts; stables, clean and whitewashed; yard, fairly clean and dry; ventilation, good; water, well and spring.

J. Fredericks—Condition of cows, good; feed, bran and shredded fodder; stables, very clean and neat; yard, clean and dry; ventilation, good; water, well; milk room very clean.

T. J. Pennel—Condition of cows, good; feed, does not feed in stable at present; stable, very clean; cement floors; cobwebs on ceiling; yard, clean and dry; ventilation, good; water, spring and well; uses an aerator; sells milk to the Sanitary Milk Co.

John Roe—Condition of cows, good; feed, bran and ground corn and oats; stables, fairly clean and partly whitewashed; yard, clean and dry; ventilation, good; water, well; milk room clean.

Henry Schwab—Condition of cows, good; stables, fairly clean; ceilings covered with dust and cobwebs; yard, dry and fairly clean; ventilation, poor; water, well; uses an aerator; sells milk to Sanitary Milk Co.

N. Woodmansie—Condition of cows, good; feed, quaker oats, corn meal and shorts; stables, clean, whitewashed and lime used on the floors; yard, clean and good; ventilation, good; water, city.

John Miller—Condition of cows, good; feed, bran and fodder corn; stables, fairly clean; yard, dry and fairly clean; ventilation, fair; water, well and spring.

C. W. Tubbs—Condition of cows, good; feed, bran, crushed corn and stalks; stables, clean and neat, cement floors, uses lime on floors; yard wet and dirty; ventilation, good; water, well; milk room clean; uses an aerator.

Geo. T. Lomas—Condition of cows, good; feed, bran, ground corn and oats; stables, fairly clean; yard, wet and dirty; ventilation, good; water, well; milk room clean; uses an aerator; sells milk to Sanitary Milk Co.

D. B. Sears—Condition of cows, good; feed, bran and ground barley and oats; stables, clean, but ceilings covered with dust and cobwebs; yard, wet and fairly clean; ventilation, good; water, well; uses an aerator; sells milk to Sanitary Milk Co.

T. Kalmbach—Condition of cows, good; feed, corn meal; stables, fairly clean, but a good many cobwebs on ceiling; yard, dry and fairly clean; ventilation, poor; water, well; sells milk to Sanitary Milk Co.

J. M. Braun—Condition of cows, good; feed, pumpkins, corn and beets; stables, clean and neat; yard, clean and dry; ventilation, good; water, well; uses an aerator.

Chas. Braun—Condition of cows, good; feed, bran; stables, fairly clean, but some cobwebs on ceiling; yard, fairly clean but wet; ventilation, fair; water, well; sells milk to Sanitary Milk Co.

William Smith—Condition of cows, good; feed, corn and millet; stables, clean, but ceilings covered with cobwebs and dust; yard, clean and dry; ventilation, fair; water, well; sells milk to Sanitary Milk Co.

J. O'Hara—Condition of cows, good; feed, soft corn and fodder corn; stables, clean and neat; yard, fairly clean and dry; ventilation, good; water, well; uses an aerator in stables.

Edwin Besch—Condition of cows, good; feed, ensilage, oat and pea hay, corn stalks and bran; stables, clean and neat; yard, clean and dry; ventilation, good; water, spring and well; uses an aerator; sells milk to Sanitary Milk Co.

At Coldwater:

O. Warford—Condition of cows, good and clean; feed, fodder corn, bran and ground corn and oats; stables, clean and neat; yard, clean and dry; ventilation, good; water, well and spring.

H. B. Lockwood—Condition of cows, good and clean; feed, bran and soft corn; stables, clean and neat; yard, rather wet and dirty; ventilation, good; water, well; milk room clean and neat.

Fred Fish—Condition of cows, good and clean; feed, corn and clover hay; stables clean and neat; yard, clean and dry; ventilation, fair; water, well; milk room, very clean.

Marshall Buys—Condition of cows, good and clean; feed, ground barley and oats, bran and fodder corn; stables, clean and neat; yard, rather wet and dirty; ventilation, fair; water, well; milk room clean and neat.

Frank Angevine—Condition of cows, good and clean; feed, fodder corn, hay, bran and corn meal; stables, clean and whitewashed; yard, rather wet and dirty; ventilation, fair; water, well; milk room fairly neat and clean; uses an aerator.

John Martin—Condition of cows, good and clean; feed, fodder corn; stables, clean and neat; yard, rather wet and dirty; ventilation, fair; water, well; milk room clean and neat.

Neel & Angevine—Condition of cows, good and clean; feed, bran, corn meal, hay and corn stalks; stables, clean and walls are whitewashed; yard rather wet and dirty; ventilation, fair; water, well; milk room clean; uses an aerator; has a new barn strictly up-to-date nearly ready for use.

CREAM OF TARTAR.

No. A-250. Sample of cream of tartar substitute from Judson & Hawkins, Clayton
Sold (1898) by Dow & Snell Co., Toledo, Ohio.

Cream of tartar.....	None.
Corn starch.....	2.16 per cent.
Acid phosphate of lime.....	22.75 " "
Sulphate of lime.....	48.02 " "
Alum (Anhydrous).....	11.53 " "
Water.....	15.54 " "

Improperly labeled.

No. G-735. Sample of cream of tartar (Brand "Perfectly Pure") from Hendricksen
Bros., Hancock.

Sold (1899) by Ed. M. Lieblein, Hancock.

Cream of tartar.....	78.22 per cent.
Sodium sulphate.....	20.48 " "
Water.....	1.30 " "

Adulterated with sodium sulphate (Glauber salts).

No. G-742. Sample of cream of tartar from James T. Bond, Greenland.

Sold (1899) by Penberthy, Cook & Co., Menominee.

Cream of tartar.....	None.
Corn starch.....	6.25 per cent.
Acid phosphate of lime.....	39.17 " "
Sulphate of lime.....	43.60 " "
Water.....	10.93 " "

An imitation cream of tartar.

No. K-68. Sample of cream of tartar (Brand "Strictly Pure 99%") from original
package at Allegan.

Sold (1898) by Ball-Barnhart-Putman Co., Grand Rapids.

Producers, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	11.00 per cent.
Acid phosphate of lime.....	35.30 " "
Sulphate of lime.....	33.12 " "
Alum (Anhydrous).....	13.75 " "
Water.....	6.83 " "

An imitation cream of tartar.

EXTRACTS.—(Flavoring.)

No. G-741. Sample of extract of vanilla (Brand "Gurney's") from James T. Bond
Greenland.

Sold (1899) by Puhl-Webb Co., Chicago, Ill.

Producers, Puhl-Webb Co., Chicago, Ill.

Vanillin.....	0.20 per cent.
Coumarin.....	0.027 " "
Vanilla resin.....	None.
Organic acids and gums.....	None.
Color.....	Artificial.

An artificial preparation.

No. K-87. Sample of extract vanilla from Lamb & Spencer, Charlotte.
 Sold (1899) by E. B. Miller & Co., Chicago, Ill.
 Producer, E. B. Miller & Co., Chicago, Ill.

Vanillin	Present.
Coumarin	Present.
Color	Natural.

Adulterated with coumarin.

HONEY.

No. A-298. Sample of honey (Brand "Pure Extracted Honey") taken from original package at Jackson.

Sold (1899) by M. G. Hakes, Agent, Jackson.
 Producer, James Heddon, Dowagiac.

Water	13.11 per cent.
Ash	0.26 " "
Reducing sugar before inversion	56.54 " "
Reducing sugar after inversion	58.27 " "
Polarization before inversion	+40.4 degrees.
Polarization after inversion	+33.7 degrees.

Glucose flavored with honey.

No. A-299. Sample of honey (Brand "Pure Extracted Honey") from original package at Jackson.

Sold (1899) by M. G. Hakes, Agent, Jackson.
 Producer, James Heddon, Dowagiac.

Water	7.68 per cent.
Ash	0.33 " "
Reducing sugar before inversion	53.38 " "
Reducing sugar after inversion	61.53 " "
Polarization before inversion	+59.2 degrees.
Polarization after inversion	+57.5 degrees.

Glucose flavored with honey.

No. A-303. Sample of honey (Brand "Pure Extracted Honey") from original package at Jackson.

Sold (1899).
 Producer, James Heddon, Dowagiac.

Water	18.18 per cent.
Ash	0.18 " "
Reducing sugar before inversion	61.92 " "
Reducing sugar after inversion	64.10 " "
Polarization before inversion	+50.4 degrees.
Polarization after inversion	+48.0 degrees.

Glucose flavored with honey.

No. A-304. Sample of honey (Brand "Pure Extracted Honey") from M. G. Hakes, agent, Jackson.

Sold (1899).
 Producer, James Heddon, Dowagiac.

Water	17.00 per cent.
Ash	0.20 " "
Reducing sugar before inversion	57.82 " "
Reducing sugar after inversion	62.11 " "
Polarization before inversion	+57.6 degrees.
Polarization after inversion	+54.3 degrees.

Glucose flavored with honey.

No. A-314. Sample of honey from Cary Bros., Jackson.
 Sold (1899) by Martin G. Hakes, Agent, Jackson.
 Producer, James Heddon, Dowagiac.

Water.....	17.02 per cent.
Ash.....	0.12 " "
Reducing sugar before inversion.....	57.90 " "
Reducing sugar after inversion.....	62.32 " "
Polarization before inversion.....	+ 60.0 degrees.
Polarization after inversion.....	+ 56.1 degrees.

Glucose flavored with honey.

No. A-316. Sample of honey (Brand "Pure Extracted Honey") from Homer D. Winans, Jackson.

Sold (1899) by M. G. Hakes, Agent, Jackson.

Producer, James Heddon, Dowagiac.

Water.....	18.02 per cent.
Ash.....	0.08 " "
Reducing sugar before inversion.....	61.94 " "
Reducing sugar after inversion.....	64.00 " "
Polarization before inversion.....	+ 51.0 degrees.
Polarization after inversion.....	+ 48.2 degrees.

Glucose flavored with honey.

No. G-728. Sample of honey (Brand "York State") from Grierson & Fox, Copper Falls.

Sold (1898) by Steele-Wedeles Co., Chicago, Ill.

Producer, Steele-Wedeles Co., Chicago, Ill.

Water.....	15.12 per cent.
Ash.....	0.30 " "
Reducing sugar, before inversion.....	46.76 " "
Reducing sugar, after inversion.....	49.90 " "
Polarization before inversion.....	+ 127.6 degrees.
Polarization after inversion.....	+ 113.5 degrees.

Glucose flavored with honey.

No. G-733. Sample of honey (Brand "York State") from Henry Ahrens, Laurium.

Sold (1899) by Ed. M. Lieblein, Hancock.

Producer, Steele-Wedeles Co., Chicago, Ill.

Water.....	14.05 per cent.
Ash.....	0.28 " "
Reducing sugar before inversion.....	48.00 " "
Reducing sugar after inversion.....	49.90 " "
Polarization before inversion.....	+ 128.0 degrees.
Polarization after inversion.....	+ 123.2 degrees.

Glucose flavored with honey.

JELLY.

No. A-315. Sample of currant jelly from W. V. Parmelee, Jackson.

Producer, J. W. Allen & Co., Chicago, Ill.

Water.....	34.46 per cent.
Ash.....	0.35 " "
Reducing sugar before inversion.....	35.72 " "
Reducing sugar after inversion.....	40.00 " "
Polarization before inversion.....	+ 88.5 degrees.
Polarization after inversion.....	+ 85.8 degrees.
Starch paste.....	Present.
Color.....	Artificial.

An imitation fruit jelly artificially colored.

No. A-319. Sample of jelly (Brand "Blackberry Flavored Jelly") from Miller & Pray, Ann Arbor.

Sold (1899) by R. A. Bartley, Toledo, Ohio.

Producer, The Keystone Syrup Refining Co., Peoria, Ill.

Water.....	32.42 per cent.
Ash.....	0.43 " "
Reducing sugar before inversion.....	36.92 " "
Reducing sugar after inversion.....	36.00 " "
Polarization before inversion.....	+108.0 degrees.
Polarization after inversion.....	+108.0 degrees.
Starch paste.....	Present
Color.....	Artificial.

An imitation fruit jelly artificially colored.

No. A-321. Sample of jelly (Brand "Home Made Grape Jelly") from Lamb & Spencer, Ann Arbor.

Sold (1899) by Berdan & Co., Toledo, Ohio.

Producer, Ayer Preserving Co., Ayer, Mass.

Water.....	24.60 per cent.
Ash.....	0.58 " "
Reducing sugar before inversion.....	42.66 " "
Reducing sugar after inversion.....	44.00 " "
Polarization before inversion.....	92.00 degrees.
Polarization after inversion.....	89.3 " "
Starch paste.....	Present.

An imitation fruit jelly.

MUSTARD (Dry).

No. G-724. Sample of mustard (Brand "Coleman's Mustard") from Aug. W. Ecker Calumet, Michigan.

Sold (1899) by John A. Tolman Co., Chicago, Ill.

Producer, J. & J. Coleman, London, Eng.

Ash.....	5.12 per cent.
Wheat starch.....	12.23 " "
Mustard.....	-----

Adulterated with wheat starch.

No. G-737. Sample of dry mustard from Clarence H. Emmons, Ontonagon.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Ash.....	5.84 per cent.
Wheat starch.....	13.40 " "
Mustard.....	-----
Color.....	Turmeric.

Adulterated with wheat starch and colored with turmeric.

No. G-739. Sample of dry mustard from Bergeron & MacDonell, Mass City.

Sold (1899) by Stone-Ordean-Wells Co., Duluth, Minn.

Ash.....	3.48 per cent.
Wheat starch.....	50.22 " "
Mustard.....	-----
Color.....	Turmeric.

Adulterated with wheat starch and colored with turmeric.

No. G-746. Sample of dry mustard (Brand "Champion") from A. M. Donseraux Lansing.

Sold (1899) by Franklin MacVeagh & Co., Chicago, Ill.

Producer, Franklin MacVeagh & Co., Chicago, Ill.

Ash	4.33 per cent.
Corn starch	32.14 " "
Mustard	

Adulterated with corn starch.

MUSTARD (Prepared).

No. A-249. Sample of prepared mustard from E. Moore, Augusta.
Sold (1899).

Producer, W. M. Hoyt Co., Chicago, Ill.

Total solids	22.01 per cent.
Ash	2.50 " "
Mustard	
Vinegar	
Spices and tumeric	

Not properly labeled.

PEPPER.

No. G-720. Sample of pepper (Brand "Perfectly Pure") from James A. Torreano, Laurium.

Sold (1899) by Ed. M. Lieblein, Hancock.

Ash	4.51 per cent.
Starch	35.10 " "
Wheat starch	Present.

Adulterated with wheat.

No. G-729. Sample of pepper (Brand "Imperial Mills") from Foley & Smith, Eagle Harbor.

Sold (1899) by Twohy Mercantile Co., West Superior, Wis.

Producer, Imperial Coffee & Spice Co., Duluth, Minn.

Ash	3.73 per cent.
Starch	45.30 " "
Piperine and resin	6.29 " "
Wheat starch	Present.

Adulterated with wheat.

No. G-730. Sample of pepper (Brand "Superior Mills") from Foley & Smith, Eagle Harbor.

Sold (1899) by Twohy Mercantile Co., West Superior, Wis.

Ash	4.00 per cent.
Starch	26.32 " "
Piperine and resin	5.05 " "
Corn meal	Present.

Adulterated with corn meal.

No. G-738. Sample of pepper from Bergeron & MacDonell, Mass City.

Sold (1899) by Stone-Ordean-Wells Co., Duluth, Minn.

Ash	4.39 per cent.
Starch	26.23 " "
Piperine and resin	5.54 " "
Wheat starch	Present.

Adulterated with wheat.

No. G-740. Sample of pepper from James T. Bond, Greenland.
Sold (1899) by Penberthy, Cook & Co., Menominee.

Ash	4.12 per cent.
Starch	50.40 " "
Piperine and resin	6.76 " "

Contains foreign starchy matter.

SYRUP.

No. A-308. Sample of syrup (Brand "Gold Drop") from Weipert & Meyer, Strassburg.
Sold (1899) by R. A. Bartley, Toledo, Ohio.

Water	20.97 per cent.
Ash	0.91 " "
Reducing sugar before inversion	36.98 " "
Reducing sugar after inversion	39.06 " "
Polarization before inversion	+ 150. degrees.
Polarization after inversion	+ 140.8 " "

Glucose mixed with cane syrup.

No. A-322. Sample of syrup (Brand "Gold Drop") from Adam Neff, Ann Arbor.
Sold (1899) by R. A. Bartley, Toledo, Ohio.

Water	18.75 per cent.
Ash	0.68 " "
Reducing sugar before inversion	33.70 " "
Reducing sugar after inversion	39.37 " "
Polarization before inversion	+ 151.0 degrees.
Polarization after inversion	+ 143.4 degrees.

Glucose mixed with cane syrup.

No. G-731. Sample of syrup (Brand "Nectar Dripe") from Tamarack Co-operative Association, Calumet.

Sold (1899) by D. B. Scully Co., Chicago, Ill.

Producer, D. B. Scully Co., Chicago, Ill.

Water	17.87 per cent.
Ash	2.00 " "
Reducing sugar before inversion	35.71 " "
Reducing sugar after inversion	45.08 " "
Polarization before inversion	+ 132.0 degrees.
Polarization after inversion	+ 113.5 degrees.

Glucose mixed with cane syrup.

VINEGAR.

No. A-318. Sample of vinegar (Brand "Pure Cider Vinegar") from original package at Jackson.

Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity	1.0167
Acid as acetic	3.82 per cent.
Total solids	3.61 " "
Ash	0.35 " "

Below the standard in acid strength and the ash is not the ash of pure cider vinegar.

No. G-721. Sample of vinegar (Brand "Crawford's") from James A. Torreano, Laurium.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Specific gravity.....	1.0132
Acid as acetic.....	4.41 per cent.
Total solids.....	2.64 " "
Ash.....	0.19 " "

Below the standard in ash.

No. G-722. Sample of cider vinegar (Brand "Crawford's") from John K. Finlayson, Laurium.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Specific gravity.....	1.0163
Acid as acetic.....	4.27 per cent.
Total solids.....	2.60 " "
Ash.....	0.19 " "

Below the standard in ash.

No. G-725. Sample of cider vinegar (Brand "Pure Apple Cider Vinegar") from Mrs. Ann Bowden, Calumet.

Sold (1899) by W. M. Barrett & Co., Chicago, Ill.

Specific gravity.....	1.0054
Acid as acetic.....	3.69 per cent.
Total solids.....	0.19 " "
Ash.....	0.02 " "
Color.....	Artificial.

Distilled vinegar below the standard in acid strength and artificially colored.

No. G-727. Sample of "red wine vinegar" from Anton Sibilsky, Eagle River.

Sold (1899) by Twohy Mercantile Co., West Superior, Wis.

Producer, Wm. H. Bunge Co., Chicago, Ill.

Specific gravity.....	1.0086
Acid as acetic.....	5.42 per cent.
Total solids.....	0.54 " "
Ash.....	0.03 " "
Color.....	Artificial.

Distilled vinegar artificially colored.

No. G-736. Sample of cider vinegar from James Corgan & Sons, Ontonagon.

Sold (1899) by W. M. Barrett & Co., Chicago, Ill.

Producer, W. M. Barrett & Co., Chicago, Ill.

Specific gravity.....	1.0053
Acid as acetic.....	3.57 per cent.
Total solids.....	0.29 " "
Ash.....	0.02 " "
Color.....	Artificial.

Distilled vinegar below the standard in acid strength and artificially colored.

No. G-744. Sample of cider vinegar from Stannard Bros., Greenland.

Sold by Sprague, Warner & Co., Chicago, Ill.

Specific gravity.....	1.0133.
Acid as acetic.....	4.29 per cent.
Total solids.....	2.81 " "
Ash.....	0.22 " "
Color.....	Artificial.

Below the standard in ash.

No. G-745. Sample of cider vinegar from Bergeron & MacDonell, Mass City.
Sold by W. M. Barrett & Co., Chicago, Ill.
Producer, W. M. Barrett & Co, Chicago, Ill.

Specific gravity	1.0062.
Acid as acetic	4.00 per cent.
Total solids	0.27 " "
Ash	0.02 " "
Color	Artificial.

Distilled vinegar artificially colored.

No. K-84. Sample of cider vinegar (Brand "Pure Cider Vinegar") from R. C. Blair, Lake Odessa.

Sold (1899) by Worden Grocer Co., Grand Rapids.

Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity	1.0164.
Acid as acetic	3.45 per cent.
Total solids	3.02 " "
Ash	0.24 " "

Below the standard in acid strength and ash, and ash is not the ash of pure cider vinegar.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spiritous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1899

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

ARTIFICIAL 'EXTRACTS OF VANILLA, TONKA AND VANILLA AND TONKA, PROHIBITED.

In the September bulletin attention was called to the original work of the department chemists resulting in the finding of a complete method for the distinction of true from false vanilla and tonka extracts. Since September first, 1897, the department has ruled against the sale of manufactured artificial products under the name of extract of vanilla or extract of vanilla and tonka. While until lately it has not been possible to absolutely detect the use of these artificial goods, yet the manufacturers are bound both legally and actually to know the make-up of their goods, and should long ago have ceased the practice of this deception.

The department now gives notice that, beginning January first, all extracts of vanilla, extracts of tonka or extracts of vanilla and tonka found upon the shelves of retailers must be true extracts as labeled and branded. If manufacturers or jobbers have artificial products in the hands of the retail trade in Michigan under the label or brand of true extracts, they will have until January first to take up such goods. After that date especial attention will be given extracts, and prosecution will follow wherever contraband goods are found, regardless of the date when sold.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	15
Cases nolle prossed*.....	4

CASES DISPOSED OF.

Before Examining Magistrates, 8 {	Defendants bound over to trial courts....	8
	Defendants discharged on examination...	0
In Trial Courts.....14 {	Defendants convicted.....	13
	Defendants acquitted.....	1
Cases pending December 1, 1899		13

PROCEEDINGS HAD DURING THE MONTH OF NOVEMBER, 1899.

Complaint was made on the 3d inst. in justice court of the city of Lansing against Clarence Philibaum, representing Franklin MacVeagh & Co., of Chicago, Ill., defendant being charged with having sold adulterated mustard. On the 17th inst. defendant waived examination and was bound over to the circuit court for the county of Ingham for trial.

Complaint was made on the 9th inst. in police court of the city of Jackson against the Oakland Vinegar and Pickle Co., of Highland, Mich., defendant being charged with having sold adulterated vinegar. On the 9th inst. defendant entered a plea of guilty to said charge. A fine of \$50.00 was imposed by the court.

Complaint was made on the 14th inst. in justice court of the township of Hersey against the Oakland Vinegar and Pickle Co., of Highland, Mich., defendant being charged with having sold adulterated vinegar. On the 14th inst. defendant entered a plea of guilty to said charge. A fine of \$50.00 was imposed by the court.

The case pending in the circuit court for the county of Menominee against James Murphy, representing The James Pittaway Co., of Chicago, Ill., charged with having sold adulterated mustard, came up for trial before Judge Stone and a jury in said court on the 14th inst. De-

* Oleomargarine cases, Statute repealed.

defendant was convicted. Released on bonds to appear for sentence at the next term of court.

In the case pending in the circuit court for the county of Menominee against Frank Penberthy, representing Penberthy, Cook & Co., of Menominee, Mich., charged with having sold adulterated cream of tartar, the defendant on the 16th inst. entered a plea of guilty to said charge. A fine of \$35.00 was imposed by the court.

In the case pending in justice court of the city of St. Ignace against Clarence Philibaum, representing Franklin MacVeagh & Co., of Chicago, Ill., charged with having sold adulterated mustard, defendant on the 24th inst. waived examination and was bound over to the circuit court for the county of Mackinac for trial.

The examination in the case pending in justice court of the city of Lansing against Charles P. Downey, of Lansing, Mich., charged with having served oleomargarine without displaying the required sign, was held on the 24th inst. Defendant was bound over to the circuit court for the county of Ingham for trial.

INSPECTIONS.

The following places were visited during the month of November by the department's inspection force:

Stephenson, Menominee, Ingalls, Spalding, Powers, Ishpeming, Marquette, Lyons, Bancroft, Durand, Ionia, Muir, Pewamo, Lansing, Port Huron, Oak, Detroit, Wyandotte, Trenton, Grand Rapids, Conklin, Muskegon, Holland, Zeeland, St. Joseph, Benton Harbor, Niles.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of November, 1899:

At Sturgis:

J. D. Hoopingamer—Condition of cows, good and clean; stables, clean and neat; feed bran, hay and ground corn and oats; yard, a little wet and dirty; ventilation, good; water, spring, creek and well; uses an aerator in barn.

Tattersall Bros.—Condition of cows, good and fairly clean; stables, clean and neat; feed, bran and corn meal; yard, dry and fairly clean; ventilation, fair; water, well.

E. E. Sheap—Condition of cows, very good and clean; stables, clean and neat; feed, ground corn and oats; yard, wet but clean; ventilation, good; water, well; milk room, clean and neat; uses an aerator.

At White Pigeon:

R. A. Hanison—Condition of cows, good and clean; stables, clean and neat; feed, clover hay and corn meal; yard, clean and dry; ventilation, fair; water, creek.

At Constantine:

W. H. Schneider—Condition of cows, good and clean; stables, clean and neat; feed, hay and corn meal; yard, dry and fairly clean; ventilation, good; water, well; milk room, very clean and neat.

Tracy Bros.—Condition of cows, good and clean; stables, clean and neat; yard, clean and dry; ventilation, fair; water, well; milk house, clean and neat.

At Three Rivers:

S. S. Reed—Condition of cows, good and clean; stables, clean and neat; feed, ensilage, hay, bran and shorts; yard, wet and dirty; ventilation, good; water, well and spring; milk room, very neat and clean.

Fred Kellar—Condition of cows, good and clean; stables, neat and clean; some cobwebs on ceiling; feed, corn stalks, ground corn and oats, hay and beets; ventilation, good; yard, clean and dry; water, well; milk room, clean and neat.

Shaeffer Bros.—Condition of cows, good and clean; stables, very clean and neat; feed, bran and corn meal, hay and corn stalks; yard, clean and dry; ventilation, good; water, well; milk room, clean and neat.

Clayton Lash—Condition of cows, good and clean; stables, clean and neat; part of floors, cement; some cobwebs on ceilings; feed, cornstalks, hay, bran, corn and beets; yard, clean and dry; ventilation, good; water, well.

Sam Mowery—Condition of cows, fair, but not very clean; stables, dirty; floors, poor and very wet; feed, soft corn, feed and cornstalks; yard, wet and dirty, ventilation, fair; water, well.

At Niles:

Young & Harger—Condition of cows, good and clean; stables, neat and clean; feed, clover hay, shredded fodder, bran and corn meal; yard, fairly dry and clean; ventilation, good, water, well and city; milk house, neat and clean; uses an aerator.

Winn Bros.—Condition of cows, good, fairly clean; stables neat and clean; yard, clean and dry; ventilation fair; water, well; milk room, neat and clean.

Simon Shamel—Condition of cows, good and clean; stables, clean and neat; feed, hay, fodder corn, bran and soft corn; stables, clean and neat; yard, fairly dry and clean; ventilation, fair; water, spring.

Ballard Bros.—Condition of cows, very good and clean; stables, very neat and clean; feed, ensilage, buckwheat middlings, bran and corn fodder; yard, clean and dry; ventilation, good; water, well and spring; milk room, very neat and clean; uses a separator, cans and milk utensils sterilized with steam.

Jacob Kemple—Condition of cows, good and clean; stables, neat and clean; feed, corn stalks and bran; yard, clean and dry; ventilation, good; water, spring.

D. A. Hicks—Condition of cows, poor and clean; stables, old and poor, but fairly clean; feed, cornstalks and corn; yard, clean and dry; ventilation, good; water, well.

At Benton Harbor:

J. D. Closson & Son—Condition of cows, good and clean; stables, neat and clean; feed, corn fodder, ground feed and bran; yard, clean and dry; ventilation, fair; water, spring, creek and well; uses an aerator.

J. H. Martindale—Condition of cows, good and clean; stables, floors and walls, neat and clean; ceilings covered with dirt and cobwebs; feed, bran, corn meal and fodder corn; ventilation, fair; water, well.

H. R. Munger & Son—Condition of cows, good and clean; stables, clean and neat; feed, hay, fodder corn, bran, ground corn and oats; yard, clean and dry; ventilation, good; water, well.

B. T. Sells—Condition of cows, good and clean; stables, neat and clean, except ceiling, which is made of poles and straw and covered with dirt and cobwebs; feed, bran, buckwheat bran, ground corn and oats, fodder corn and turnips; yard, clean and dry except a deep mud hole in front of stable door; ventilation, fair; water, well.

J. H. Monger—Condition of cows, good and clean; stables, neat and clean, partly whitewashed; feed, bran and corn meal and corn fodder; yard, clean and dry, except in front of stable door; ventilation, good; water, well.

Peters & Closson—Condition of cows, good and clean; feed, fodder corn; stables, fairly good and clean; yard, clean and dry; ventilation, fair; water, spring; uses an aerator; milk room, neat and clean.

George W. Platt—Condition of cows, good and very clean; stables, good and very neat and clean; feed, bran, corn meal and hay; yard, clean and dry; ventilation, good; water, city and spring.

Seeley & McCord—Condition of cows, good and fairly clean; feed, ensilage, bran, shorts and corn meal; stables, neat, clean and partly whitewashed; yard, clean and dry; ventilation, fair; water, well and river; milk house, neat and clean; sells milk to Hibbard and to J. H. Stone.

M. Carlson—Condition of cows, good and very clean; stables, neat and clean; yard, clean and dry; ventilation, good; water, well.

At St. Joseph:

Dwight Scott—Condition of cows, good and clean; stables, fairly clean; feed, hay, cornstalks, bran and shorts; yard, clean and dry; ventilation, fair; water, well.

Frank Foster—Condition of cows, very good and clean; feed, cut fodder and soft corn; stables, neat and clean; yard, clean and dry; ventilation, good; water, well.

Geo. Smith—Condition of cows, good and very clean; stables, neat and clean; feed, clover hay, cornstalks, bran and gluten meal; yard, fairly dry and clean; ventilation, fair; water, well; milk room, neat and clean; sells milk to Geo. Belden and to William Surch.

At South Haven:

C. J. Monroe—Condition of cows, good and clean; stables, neat and clean, nicely whitewashed; feed, ground corn and rye, bran, fodder corn and hay; yard, clean and dry; ventilation, good; water, well.

Lucian Mace—Condition of cows, good and clean; stables, clean and neat; yard, clean and dry; ventilation, good; feed, ground corn and oats, beets, hay and corn fodder; water, spring and creek; sells milk to S. T. Coning.

T. D. Hodge—Condition of cows, good and clean; stables, neat and clean; feed, hay, cornstalks, bran, ground corn and oats; yard, clean and dry; ventilation, good; water, well.

A. J. Hodge—Condition of cows, good and clean; stables, neat and clean; yard, clean and dry; ventilation, good; water, well.

At Holland:

A. W. Kleis—Condition of cows, good and fairly clean; stables, not very clean; poor floors and dusty ceilings; feed, cornstalks, beet tops and bran; ventilation; good; water, well; milk house is fairly good and clean.

A. VerLee—Condition of cows, good and clean; stables, very neat and clean; feed, ground corn and oats, bran, cornstalks and hay; yard, clean and dry; ventilation, good; water, well; milk room, very neat and clean.

P. VanAnrooys—Condition of cows, good and clean; stables, very neat and clean; feed, fodder corn, bran and hay; yard, clean and dry; ventilation, good; water, well.

P. H. Boven—Condition of cows, good and clean; stables, neat and clean; feed, corn, barley, oats, oats and wheat ground and cooked, corn stalks and hay; yard, clean and dry; ventilation, good; water, spring and creek.

J. Schlotenboer—Condition of cows, good, fairly clean; stables, clean and neat; feed, bran, corn, carrots and cornstalks; yard, clean and dry; ventilation, good; water, spring; milk room, neat and clean; uses an aerator.

William VandenBerg—Condition of cows, good and clean; stables, neat and clean; feed, fodder corn and pasture; ventilation, good; water, well.

L. Boersma—Condition of cows, good and clean; stables, clean and neat; feed, hay, cornstalks and bran; yard, clean and dry; ventilation, fair; water, well.

C. Grevengold—Condition of cows, good and clean; stables, very neat and clean; feed, corn fodder and bran; yard, clean and dry; ventilation, good; water, well; milk house, neat and clean; cement floor and tank.

J. Wiersma—Condition of cows, good and very clean; stables, neat and clean; feed, linseed meal, corn meal, bran, hay and cornstalks; yard, rather dry and clean; ventilation, poor; water, well.

J. Bronkhoist—Condition of cows, good and clean; stables, neat and clean; feed, cornstalks, linseed meal; corn meal and bran; yard, clean and dry; ventilation, fair; water, well.

J. DeSein—Condition of cows, good and fairly clean; stables, neat and clean; feed, bran, shorts, beets, corn meal, hay and cornstalks; yard, clean and dry; ventilation, fair; water, well.

Henry E. VanKampen—Condition of cows, good and fairly clean; stables, very neat and clean; feed, bran, shorts, fodder corn and hay; yard, clean and dry; ventilation, good; water, well; milk room, neat and clean; cement floor; uses an aerator.

J. Boonstra—Condition of cows, good and very clean; stables, neat and clean; feed, corn, carrot, beets, cornstalks and hay; yard, clean and dry; ventilation, fair; water, well.

C. DeKam—Condition of cows, good and fairly clean; stables, fairly clean and neat; feed, fodder corn, carrots and hay; yard, clean and dry; ventilation, fair; water, well; milk room, clean and neat and has cement floor.

J. Benkema—Condition of cows, good and very clean; stables neat and clean; feed, ground corn and oats, bran, linseed meal; fodder corn and hay; yard, clean and dry; ventilation, fair; water, well.

L. Bareman—Condition of cows, good and very clean; stables, neat and clean; feed, oats, wheat and rye, ground bran, corn stalks and hay; yard, clean and dry; ventilation, fair; water, well.

Baas Bros.—Condition of cows, good and clean; stables, neat and clean; feed, ground corn and oats and fodder corn; yard, clean and dry; ventilation, good; water, spring creek; milk room, clean and neat.

J. Essenberg—Condition of cows, good but very dirty; stables, clean and neat; feed, corn meal, bran, cornstalks and hay; yard, clean and dry; ventilation, good; water, spring creek.

S. A. Wilson—Condition of cows, good and fairly clean; stables, neat and clean; feed, corn and cornstalks; yard, clean and dry; ventilation, good; water, well, milk room, neat and clean.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., November 30, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of November, 89 samples of food products have been examined, 53 being pure and 36 adulterated.

R. E. DOOLITTLE,

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	1	0	1
Buckwheat flour.....	2	1	1
Butter.....	23	18	10
Chocolate.....	4	3	1
Cinnamon.....	3	2	1
Cloves.....	3	3	0
Cocoa.....	1	0	1
Corn starch.....	1	1	0
Extracts (flavoring).....	6	3	3
Ginger.....	1	1	0
Honey.....	1	0	1
Jelly.....	2	1	1
Licorice.....	1	1	0
Maple syrup.....	2	2	0
Marmalade.....	1	1	0
Milk.....	7	6	1
Mustard (Dry).....	2	0	2
Mustard (Prepared).....	3	1	2
Olive oil.....	2	0	2
Pepper.....	6	4	2
Preserves.....	1	1	0
Pumpkin (prepared).....	1	1	0
Sardines.....	1	1	0
Vinegar.....	9	2	7
Totals.....	89	53	36

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

ALLSPICE.

No. K-91. Sample of allspice from L. Cohen, White Cloud.

Ash.....	7.63 per cent.
Allspice.....	-----
Clove stems.....	-----

Adulterated with ground clove stems.

BUCKWHEAT FLOUR.

No. A-335. Sample of buckwheat flour (Brand "King's Quickrising") from Wetmore Mercantile Co., Marquette.

Sold (1899) by Smith, Thorndike & Brown, Milwaukee, Wis.

Producer, The King Cereal Co., Chicago, Ill.

Buckwheat flour.....	-----
Wheat flour.....	-----
Baking powder and salts.....	-----

Not properly labeled.

BUTTER.

No. I-291. Sample of butter from Chas. D. Farr, Elliot House, Sturgis.

Oleomargarine; no signs displayed in room.

No. I-297. Sample of butter from C. Undewood Fisher, Central Hotel, Three Rivers.

Oleomargarine; no signs displayed in room.

No. I-299. Sample of butter from Daniel D. Mitchell, Kalamazoo House, Kalamazoo.

Oleomargarine; no signs displayed in room.

No. I-300. Sample of butter from Adam Ehrman, Columbia Hotel, Kalamazoo.

Oleomargarine; no signs displayed in room.

No. I-303. Sample of butter from George W. Dolliver, Pike House, Niles.

Oleomargarine; no signs displayed in room.

No. I-310. Sample of butter from Edward Brant, Hotel Benton, Benton Harbor.

Oleomargarine; no signs displayed in room.

No. I-316. Sample of butter from Schuyler C. Unruh, Star Restaurant, St. Joseph.

Oleomargarine; no signs displayed in room.

No. I-317. Sample of butter from William Chrest, Restaurant, St. Joseph.

Oleomargarine; no signs displayed in room.

No. I-319. Sample of butter from John W. Deaner, Phoenix Hotel, Benton Harbor.
Oleomargarine; no signs displayed in room.

No. I-320. Sample of butter from Hodge & Tracy, Hotel Columbus, South Haven.
Oleomargarine; no signs displayed in room.

CHOCOLATE.

No. L-37. Sample of sweet chocolate (Brand "Royal") from N. J. Wagner, Detroit.
Sold (1899) by Chas. F. Funke & Co., Detroit.

Producer, Brewster Cocoa Mfg. Co., Newark, N. J.

Ash	1.16 per cent.
Corn and wheat starch .....	.....
Cane sugar .....	.....
Cocoa .....	.....

Adulterated with corn and wheat starch.

CINNAMON.

No. L-40. Sample of cinnamon from N. J. Wagner, Detroit.
Sold (1899) by Chas. F. Funke & Co., Detroit.

□ Total ash	11.03 per cent.
□ Insoluble ash (sand)	7.28 " "
□ Ground cassia .....	.....

Contains an excessive amount of sand.

COCOA.

No. L-36. Sample of cocoa (Brand "Caracas Breakfast") from N. J. Wagner, Detroit.
Sold (1899) by Chas. F. Funke & Co., Detroit.

Producer, Brewster Cocoa Mfg. Co., Newark, N. J.

Ash	4.29 per cent.
Corn and wheat starch .....	.....
Cocoa .....	.....

Adulterated with corn and wheat starch.

EXTRACTS (Flavoring).

No. A-333. Sample of vanilla extract (Brand "Jumbo") from S. Rosenberg, Stephenson.

Vanillin	None.
Coumarin	0.062 per cent.
Vanilla resin	None.
Organic acids and gums	"
Coloring	Artificial.

An artificial preparation of coumarin.

No. B-216. Sample of vanilla extract (Brand "Perfection Vanilla Flavoring") from J. L. Cotter, Pewamo.

Sold (1899) by Chapman, Smith & Co.

Producer, Saxons Extract Co., Chicago, Ill.

Vanillin	0.025 per cent.
Coumarin	0.135 " "
Coloring	Artificial.

Adulterated with coumarin and artificially colored.

No. K-93. Sample of extract of vanilla and coumarin (Brand "Capital Extract Vanilla and Coumarin") from Vallier Grocer Co., Fremont.

Sold (1899) by Northrop, Robertson & Carrier, Lansing.

Producer, Capital Extract Co., Lansing.

Vanillin.....	0.060 per cent.
Coumarin.....	0.170 " "
Vanilla resin.....	None.
Organic acids and gums.....	None.
Coloring.....	Artificial.

An artificial preparation.

HONEY.

No. C-392. Sample of honey taken from original package at Marquette.

Sold by John A. Tolman Co., Chicago, Ill.

Water.....	21.00 per cent.
Ash.....	0.26 " "
Reducing sugar before inversion.....	47.80 " "
Reducing sugar after inversion.....	48.85 " "
Polarization before inversion.....	+115.2 degrees.
Polarization after inversion.....	+104.5 "

Glucose flavored with honey.

JELLY.

No. 330. Sample of raspberry jelly from E. H. Marson, Stephenville.

Sold (1899) by Penberthy, Cook & Co., Menominee.

Producer, The Heinz Co., Lafayette, Ind.

Water.....	25.80 per cent.
Ash.....	0.47 " "
Reducing sugar before inversion.....	43.70 " "
Reducing sugar after inversion.....	48.10 " "
Polarization before inversion.....	+88. degrees.
Polarization after inversion.....	+66. "
Starch paste.....	Present.
Color.....	Artificial.

An imitation fruit jelly artificially colored.

MILK.

No. I-295. Sample of milk from Mrs. Carrie B. Kingsbury, Kingsbury Hotel, White Pigeon.

Specific gravity.....	1.037
Water.....	89.03 per cent.
Total solids.....	10.97 " "
Milk fat.....	1.40 " "
Solids not fat.....	9.57 " "
Ash.....	0.79 " "

Below the standard in solids and milk fat.

MUSTARD (Dry).

No. G-760. Sample of dry mustard from McNutt Bros., Port Huron.

Sold (1899) by C. Elliot & Co., Detroit.

Ash.....	5.05 per cent.
Starch.....	14.55 " "
Mustard.....	.....

Adulterated with starch.

No. G-762. Sample of dry mustard (Brand "Strictly Pure") from original package at Port Huron.

Sold (1899) by Parrish Bros., Baltimore, Md.

Ash.....	7.30 per cent.
Starch.....	13.52 " "
Mustard.....	

Adulterated with starch.

MUSTARD (Prepared).

No. A-332. Sample of prepared mustard (Brand "Mayonnaise") from W. P. Kezar, Stephenson.

Sold (1899) by Franklin MacVeagh & Co., Chicago, Ill.

Solids.....	21.12 per cent.
Ash.....	2.67 " "
Mustard (whole seed ground).....	
Vinegar.....	
Spices and turmeric.....	

Not properly labeled.

No. A-337. Sample of prepared mustard (Brand "Minnehaha") from F. C. Glocke, Marquette.

Producer, The M. A. Gedney Co., St. Paul and Minneapolis, Minn.

Solids.....	28.68 per cent.
Ash.....	3.17 " "
Mustard.....	
Vinegar.....	
Spices.....	

Not properly labeled.

OLIVE OIL.

No. A-336. Sample of olive oil (Brand "D'Olive Vierge") from Wetmore Mercantile Co., Marquette.

Sold (1899) by Franklin MacVeagh & Co., Chicago, Ill.

Producer, E. Lonbon, Nice.

Olive oil.....	50.00 per cent.
Cotton seed oil.....	50.00 " "

Adulterated with cotton seed oil.

No. L-28. Sample of olive oil (Brand "Surfine Clarifiee") from J. C. Robinson, Detroit.

Sold (1899) by The Bartholomew Chemical Co., Detroit.

Producer, R. L. Docosini, Nice.

Olive oil.....	50.00 per cent.
Cotton seed oil.....	50.00 " "

Adulterated with cotton seed oil.

PEPPER.

No. B-217. Sample of pepper (Brand "Lacota Mills Pepper") from Frank E. Moseley, Owosso.

Sold (1899) by Phipps, Penoyer & Co., Saginaw.

Producer, Lacota Mills, Chicago, Ill.

Total ash.....	11.35 per cent.
Insoluble ash (sand).....	4.72 " "
Starch.....	30.10 " "
Piperine and resin.....	9.07 " "
Crude fibre.....	14.68 " "

Contains an excessive amount of sand.

No. K-89. Sample of cayenne pepper from L. Cohen, White Cloud.

Sold (1899) by Daniel Lynch, Grand Rapids.

Total ash.....	8.10 per cent.
Insoluble ash, sand.....	3.53 " "
Cayenne.....	
Red Saunders.....	

Adulterated with red saunders and contains an excessive amount of sand.

VINEGAR.

No. A-331. Sample of cider vinegar (Brand "Fermented Apple Cider") from E. H. Marson, Stephenville.

Sold (1899) by Badger State Bottling Co., Watertown, Wis.

Producer, Milwaukee Vinegar Co., Milwaukee, Wis.

Specific gravity.....	1.0195
Acid as acetic.....	4.00 per cent.
Total solids.....	4.59 " "
Ash.....	0.11 " "
Organic acids.....	Present.

Below the standard in ash.

No. A-334. Sample of cider vinegar (Brand "Fermented Apple Cider") from S. Rosenberg, Stephenson.

Sold (1899) by Badger State Bottling Co., Watertown, Wis.

Producer, Milwaukee Vinegar Co., Milwaukee, Wis.

Specific gravity.....	1.0116
Acid as acetic.....	4.06 per cent.
Total solids.....	2.31 " "
Ash.....	0.22 " "
Organic acids.....	Present.

Below the standard in ash.

No. A-338. Sample of apple vinegar (Brand "Pure Apple F. R. Cider") from J. J. Leffler, Ishpeming.

Sold (1899) by Steele-Wedeles Co., Chicago, Ill.

Specific gravity.....	1.0113
Acid as acetic.....	3.84 per cent.
Total solids.....	1.60 " "
Ash.....	0.15 " "
Organic acids.....	Present.

Below the standard in solids, in ash and in acid strength.

No. G-752. Sample of cider vinegar (Brand "Fermented Cider Vinegar") taken from original package at Port Huron.

Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity.....	1.0161.
Acid, as acetic.....	4.22 per cent.
Total solids.....	2.95 " "
Ash.....	0.29 " "
Organic acids.....	Trace.

Ash is not ash of cider vinegar.

No. G-758. Sample of cider vinegar (Brand "Fermented Cider Vinegar") taken from original package at Port Huron.

Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity.....	1.0168
Acid, as acetic.....	3.40 per cent.
Total solids.....	3.29 " "
Ash.....	0.23 " "
Organic acids.....	Trace.

Below the standard in acid strength and ash, and ash is not the ash of cider vinegar.

No. K-45. Sample of vinegar (Brand "Pure Cider Vinegar") from Wm. Eichenberg, Park Lake.

Producer, Oakland Vinegar & Pickle Co., Highland, Mich.

Specific gravity.....	1.0187.
Acid as acetic.....	3.43 per cent.
Total solids.....	3.84 " "
Ash.....	0.42 " "

Below the standard in acid strength, and ash is not the ash of cider vinegar.

No. K-94. Sample of vinegar from Pearson & Ribar, Fremont.

Specific gravity.....	1.0162
Acid as acetic.....	3.77 per cent.
Total solids.....	3.08 " "
Ash.....	0.15 " "
Organic acids.....	Trace.

Below the standard in acid strength and ash.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
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1900.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

We publish herewith an article on Coumarin and Vanillin, being the result of original research work by William H. Hess, Assistant State Analyst and Albert B. Prescott, Professor of Chemistry in the State University.

COUMARIN AND VANILLIN, THEIR SEPARATION, ESTIMATION AND IDENTIFICATION IN COMMERCIAL FLAVORING EXTRACTS.

BY WILLIAM H. HESS AND ALBERT B. PRESCOTT.

It is a common practice in preparing an extract of vanilla from vanilla beans, to introduce also, as a lower-priced material, a portion of tonka beans. This makes a cheaper article and one that is generally popular with consumers. It is understood, however, to be an inferior article when compared with the genuine, and it can no longer be correctly labeled "Vanilla Extract." Under this name the presence of tonka extract constitutes an adulteration and hence the separation, identification, and estimation of coumarin, the odoriferous principle of the tonka bean, has become a practical problem for the analytical chemist.

THEORY FOR THE SEPARATION OF COUMARIN FROM VANILLIN.

Vanillin is hydroxymethoxybenzoic aldehyde, while coumarin is the anhydride of coumaric (orthohydroxycinnamic) acid. The separation depends on the aldehydic and phenolic character of vanillin. If vanillin be dissolved in pure dry ether and dry ammonia gas passed through the solution, the aldehyde ammonia compound of vanillin will be precipitated in almost quantitative proportions. It is accordingly not very soluble in ether; but like all aldehyde ammonias, or phenolates it is very soluble in water. Ammonia water should, then, extract all the vanillin from an

ether solution. This theoretic principle is fully borne out in practice, as has been proved by repeated experiment. Coumarin, on the other hand, remains wholly in the ether solution.

METHOD OF ANALYSIS.

A sample of 25 to 100 grams of the commercial extract to be examined is placed in an evaporating dish, and the alcohol is allowed to evaporate at about 80° C. Water is added from time to time to keep the amount of liquid about equal to the original volume. When the alcohol is all gone, normal lead acetate solution is added drop by drop until no more precipitate forms. Stirring with a glass rod aids in the flocculation and settling of the precipitate. The solution is now filtered, best through an asbestos funnel under pressure, and the precipitate washed with a few cubic centimeters of hot water. The cooled filtrate is now extracted with ether¹ by shaking out in a separatory funnel. About fifteen to twenty cc. of ether are used each time, and the process of shaking out is repeated until a few drops of the ether evaporated on a watch glass leaves no residue. If the shaking is done thoroughly, three to four times' shaking out will usually be sufficient to extract all the vanillin and coumarin. The combined ether extracts are introduced into a second separatory funnel and shaken out with dilute ammonia (one part strong ammonia to two parts of distilled water) using about two cc. of the alkaline water solution at a time, and repeating the process until the ammoniacal solution is no longer colored yellow. The ether solution is washed with two cc. of water and this wash-water added to the alkaline extract. The ammoniacal solution is set aside for the estimation of vanillin. The ether solution is now poured out into an evaporating dish, and the ether allowed to evaporate spontaneously, or better, the dish containing the ether is placed in a vacuum desiccator over sulphuric acid, when the ether may be removed quickly. To prevent bumping of the ether and consequent loss during distillation *in vacuo*, a capillary tube sealed at one end is so placed in the liquid that the open end projects into the centre of the solution, while the sealed end extends well out of the liquid, and rests on the side of the dish. It is necessary that the tube be long enough to prevent its resting horizontally on the bottom of the dish.

For Coumarin.—The residue having been left *in vacuo* over sulphuric acid long enough to remove all water, or else dried in an air-bath at not above 45° C., is treated with a few cubic centimeters of cold ligroin, the latter being poured off into a clean dry weighed dish. The extraction with ligroin is repeated until a drop evaporated on a watch-glass leaves no residue. The ligroin is allowed to evaporate (best *in vacuo* in a desiccator containing paraffin), is dried at not above 45° C. and weighed. This gives pure crystalline coumarin, melting at 67° C. After weighing, a melting-point determination should be taken, and this, with the odor which is characteristic at this point in the analysis when compared with that of a known sample, is sufficient for its identification.

For Vanillin.—The ammoniacal solution obtained above is rendered slightly acid with ten per cent. hydrochloric acid. It is then shaken out

¹Chloroform may be used instead of ether here and throughout the process, with this advantage that the evaporation of the chloroform leaves the residue dryer than it is when ether is used.

with ether in the manner stated before. The ether is removed and the residue is dried *in vacuo* over sulphuric acid or else in an air-bath at not above 55° C. This residue is washed repeatedly with boiling ligroin, using a few cubic centimeters at a time to remove the vanillin and free it from adhering substances. The ligroin solution is decanted into a weighed dish, the ligroin is removed, the vanillin is dried at not above 55° C. and weighed. This gives a pure crystalline product, melting at 80°-81° C. After the weighing, a melting-point determination should be made, and then color tests may be applied. Some samples of vanilla extracts have been found to contain phenol-like bodies resembling creosol in odor and chemical behavior. These give color compounds with salts of iron; hence, any volumetric estimation, or even qualitative test, applied to the unpurified extract may be fallacious when based on color reactions of iron salts.

Results were obtained by this method under control as follows: From Mexican vanilla beans, a liquid product was made by following the directions of the United States Pharmacopoeia. Of this, tincture twenty-five grams were taken in duplicate portions; to each was added five-tenths gram of pure crystallized coumarin, and the analysis was made for estimation of coumarin and of vanillin. The coumarin recovered from the duplicate portions was, respectively, 0.491 gram or 98.2 per cent. of that taken, and 0.482 gram or 96.4 per cent. of that taken. The vanillin recovered was, respectively, 0.03081 gram and 0.02997 gram, from each of the portions of twenty-five grams of the tincture.

This method for vanillin is much easier and quicker to work than the sodium bisulphite method, and has these advantages: (1) the shaking out with ammonia water is quickly done; (2) the alkaline solution of vanillin thus obtained is small in bulk; (3) the trouble of getting rid of sulphur dioxide is avoided. The separation of the vanillin is also more complete.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	25
Cases nolle prossed*.....	13

CASES DISPOSED OF.

Before Examining Magistrates, 17 {	Defendants bound over to trial courts....	15
	Defendants discharged on examination..	2
In Trial Courts.....15 {	Defendants convicted.....	14
	Defendants acquitted.....	1
Cases pending January 1, 1900		11

PROCEEDINGS HAD DURING THE MONTH OF DECEMBER, 1899.

Complaint was made on the 5th inst. in justice court of the city of Allegan against Ball-Barnhart-Putnam Co., of Grand Rapids, Mich., charged with having sold adulterated cream of tartar. Defendant waived examination and was bound over to the circuit court for the county of Allegan for trial.

On the 5th inst. the case came up for trial in said court. Defendant entered a plea of guilty. A fine of \$25 with costs taxed at \$5.80 was imposed by the court.

Complaint was made on the 6th inst. in justice court of the village of Paw Paw against Willis W. Hodge and Theron M. Tracy, of South Haven, Mich., charged with having served oleomargarine without displaying the required sign. Examination in said case has been set for January 18.

Complaint was made on the 7th inst. in justice court of the city of Benton Harbor, against Edward Brant, of Benton Harbor, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held on the 14th inst. Defendant was bound over to the circuit court for the county of Berrien for trial.

Complaint was made on the 7th inst. in justice court of the city of Benton Harbor, against Schuyler C. Unruh, of St. Joseph, Mich., charged

*Oleomargarine cases, Statute repealed.

with having served oleomargarine without displaying the required sign. On the 14th inst. defendant waived examination and was bound over to the circuit court for the county of Berrien for trial.

Complaint was made on the 7th inst. in justice court of the city of Benton Harbor, against William Chrest, of St. Joseph, Mich., charged with having served oleomargarine without displaying the required sign. Examination in said case was held on the 14th inst. Defendant was bound over to the circuit court for the county of Berrien for trial.

Complaint was made on the 7th inst. in justice court of the city of Benton Harbor, against John W. Deaner, of Benton Harbor, Mich., charged with having served oleomargarine without displaying the required sign. Examination in said case was held on the 14th inst. Defendant was bound over to the circuit court for the county of Berrien for trial.

Complaint was made on the 15th inst. in justice court of the city of Kalamazoo, against Daniel D. Mitchell, of Kalamazoo, Mich., charged with having served oleomargarine without displaying the required sign. Examination in said case was held on the 27th inst. Defendant was bound over to the circuit court for the county of Kalamazoo for trial.

Complaint was made on the 15th inst. in justice court of the city of Kalamazoo, against Adam Ehrman, of Kalamazoo, Mich., charged with having served oleomargarine without displaying the required sign. Examination in said case was held on the 27th inst. Defendant was discharged.

Complaint was made on the 19th inst. in police court of the city of Detroit, against Edward W. Villerot, charged with having sold oleomargarine for butter. Examination in said case was held on the 26th inst. Defendant was discharged.

INSPECTIONS.

The following places were visited during the month of December by the department's inspection force: Detroit, Muskegon, Monroe and Saginaw.

OLEOMARGARINE INSPECTIONS IN DETROIT.

The services of the regular dairy inspector has been devoted this month to an investigation of the conditions surrounding the sale and use of oleomargarine in the city of Detroit.

Out of 40 licensed dealers there, 13 were found who were not complying strictly with the provisions of the oleomargarine statute. Most of these violations were of a technical nature, arising through a misunderstanding of the intent of the law, and have since been remedied.

One hundred and forty-two hotels and restaurants were inspected in 22 of which the keepers were found serving oleomargarine to their guests without displaying the required signs. Complaints are being prepared in these cases and prosecutions will be commenced during the coming month.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., December 30, 1899.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of December, 123 samples of food products have been examined, 54 being pure and 69 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	2	0	2
Buckwheat flour.....	1	1	0
Butter.....	67	32	35
Cheese.....	1	1	0
Cinnamon.....	4	1	3
Cloves.....	1	0	1
Extracts (flavoring).....	4	0	4
Honey.....	1	0	1
Jelly.....	2	0	2
Maple syrup.....	4	2	2
Molasses.....	2	2	0
Mustard (Dry).....	3	0	3
Pepper.....	9	4	5
Rice.....	1	1	0
Soup stock.....	1	1	0
Summer beverages.....	1	1	0
Syrup.....	2	1	1
Vinegar.....	17	7	10
Totals.....	123	54	69

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

ALLSPICE.

No. K-99. Sample of allspice from Tim Slagh, Holland.

Total ash.....	8.46 per cent.
Allspice.....	-----
Foreign woody matter.....	-----

Contains large amount of foreign woody matter.

No. K-120. Sample of allspice from Marie Bôurassa, Muskegon.
Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Ash.....	4.16 per cent.
Starch.....	35.16 " "

Adulterated with corn meal and wheat.

BUTTER. (From Dealers.)

The following samples were purchased in open market, the inspector in each case asking for butter. This is the result of a canvass of the 40 licensed dealers selling oleomargarine in the city of Detroit:

No. I-322. Sample from Kerscht Bros., 342 Michigan Ave.

Oleomargarine; sample not labeled; no notice given; sign not properly displayed.

No. I-332. Sample from Boston Coffee Co., 199 Gratiot Ave.

Oleomargarine; sample not properly labeled; no notice given; sign not properly displayed.

No. I-335. Sample from H. P. Cohen, 507 Central Market.

Oleomargarine; sample not properly labeled.

No. I-336. Sample from Anthony Schneider, 497 Gratiot Ave.

Oleomargarine; sample not properly labeled; no notice given; sign not properly displayed.

No. I-339. Sample from R. Downie & Sons, 565 Greenwood Ave.

Oleomargarine; sample not properly labeled; no notice given.

No. I-340. Sample from Edward Villerot, 852 Fort St.

Oleomargarine; sample not labeled; no notice given; no sign displayed.

No. I-341. Sample from R. Downie & Sons, 769 W. Fort St.

Oleomargarine; sample not properly labeled; no notice given; sign not properly displayed.

No. I-346. Sample from Faltis Market Co., 301 Woodward Ave.
Oleomargarine; sample not labeled; no sign displayed.

No. I-350. Sample from R. Downie & Sons, 117 Michigan Ave.
Oleomargarine; sample not properly labeled; no notice given.

No. I-357. Sample from Hammond, Standish & Co., Cadillac Sq.
Oleomargarine; no sign displayed.

No. I-358. Sample from William Boker, 30 Central Market.
Oleomargarine; sample not properly labeled; no notice given.

No. I-362. Sample from Lafer Bros., 17 Cadillac Sq.
Oleomargarine; no notice given; sign not properly displayed.

No. I-367. Sample from Michell Table & Supply Co., Woodward and State.
Oleomargarine; no notice given; no sign displayed.

BUTTER. (From Hotels and Restaurants.)

No. I-329. Sample from Thomas Swan, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-333. Sample from Henry J. Boerth, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-334. Sample from Walter A. Wood, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-337. Sample from Charles Heinicke, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-344. Sample from Thomas F. Harrison, Hotel Barclay, Detroit.
Oleomargarine; no signs displayed in room.

No. I-345. Sample from Ferdinand Jahn, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-348. Sample from Beamer & Fraer, Library Park Hotel, Detroit.
Oleomargarine; no signs displayed in room.

No. I-356. Sample from F. A. Merritt, Hotel Congress, Detroit.
Oleomargarine; no signs displayed in room.

No. I-359. Sample from Frank Charlet, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-360. Sample from Arthur J. & A. M. Potter, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-366. Sample from Allen P. Mason, Union Restaurant Co., Union Station,
Detroit.
Oleomargarine; no signs displayed in room.

No. I-369. Sample from Frank McGough, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-371. Sample from Mrs. C. Mitchell, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-376. Sample from Frank W. Galea, Madison Hotel, Detroit.
Oleomargarine; no signs displayed in room.

No. I-379. Sample from Mrs. Reed, Hotel Waldo, Detroit.
Oleomargarine; no signs displayed in room.

No. I-380. Sample from Jacob A. Bastendorff, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-382. Sample from John C. Beutler, Randolph Hotel, Detroit.
Oleomargarine; no signs displayed in room.

No. I-385. Sample from Allen Bros., Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-383. Sample from Grandy & Cameron, Hotel Richmond, Detroit.
Oleomargarine; no signs displayed in room.

No. I-389. Sample from Fred Metzger, Hotel Metzger, Detroit.
Oleomargarine; no signs displayed in room.

No. I-390. Sample from James T. Brady, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

No. I-391. Sample from Frank A. Puddefoot, Restaurant, Detroit.
Oleomargarine; no signs displayed in room.

CINNAMON.

No. K-103. Sample of cinnamon from J. F. Atchison, Fremont.
Sold (1899) by Woolson Spice Co., Toledo, Ohio.
Producer, Woolson Spice Co., Toledo, Ohio.

Total ash	8.42 per cent.
Insoluble ash (sand)	4.71 " "
Ground cassia	
Unsifted matter	

Contains an excessive amount of sand; also sticks, fibre, etc.

No. K-112. Sample of cinnamon from Phil Graham, Grand Rapids.
Sold (1899) by The Worden Grocer Co., Grand Rapids.

Total ash	7.15 per cent.
Insoluble ash (sand)	3.54 " "
Ground cassia	
Foreign starchy matter	

Contains foreign starchy matter.

No. K-121. Sample of cinnamon from Marie Bourassa, Muskegon.
Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Ash	5.21 per cent.
Starch	25.50 " "

Contains foreign starchy matter.

CLOVES.

No. K-122. Sample of cloves from Marie Bourassa, Muskegon.
Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Ash 8.04 per cent.

Contains foreign woody matter.

EXTRACTS (Flavoring).

No. G-751. Sample of vanilla and tonka extract from R Downey & Sons, Detroit.
Sold (1899) by Horton-Cato & Co., Detroit.

Producer, Horton-Cato & Co., Detroit.

Vanillin	0.102 per cent.
Coumarin	0.082 " "
Vanilla resin	None.
Organic acids and gums	Present.
Coloring	Artificial.

Contains added vanillin and is artificially colored.

No. G-756. Sample of tonka extract (brand "Anchor Mills") from Silas Armstrong, Port Huron.

Sold (1899) by Seeley Manufacturing Co., Detroit.

Producer, Anchor Mills, Detroit.

Vanillin	None.
Coumarin	0.088 per cent.
Vanillin resin	None.
Organic acids and gums	Present.
Coloring	Artificial.

Artificially colored.

No. G-782. Sample of vanilla and tonka extract (Brand "Dewey") from Chas. F. Funke & Co., Detroit.

Sold (1899) by Horton, Cato & Co., Detroit.

Producer, Empire Manufacturing Co., Detroit.

Vanillin	0.123 per cent.
Coumarin	0.099 " "
Vanilla resin	None.
Organic acids	Present.
Color	Artificial.

Extract of tonka containing added vanillin and artificially colored.

No. K-116. Sample of extract of vanilla and tonka from J. O. Jeannot, Muskegon.

Sold (1899) by Reid, Murdock & Co., Chicago, Ill.

Producer, Reid, Murdock & Co., Chicago, Ill.

Vanillin	None.
Coumarin	0.028 per cent.
Vanilla resin	None.
Organic acids	None.
Color	Artificial.

An artificial preparation of coumarin.

HONEY.

No. A-339. Sample of imitation honey (Brand "Pansy") from Joseph Steber, Menominee.

Sold (1899) by Smith, Thorndike & Brown, Marinette, Wis.

Producer, J. K. McAllister, Chicago, Ill.

Water.....	12.36	per cent.
Ash.....	0.24	" "
Reducing sugar before inversion.....	49.23	" "
Reducing sugar after inversion.....	50.58	" "
Polarization before inversion.....	+119.4	degrees.
Polarization after inversion.....	+116.8	"

Glucose flavored with honey.

JELLY.

No. G-748. Sample of imitation jelly (Brand "Michigan's Best Quality") from John F. Streng, Detroit.

Sold (1899) by The E. G. Dailey Co., Detroit.

Producer, The E. G. Dailey Co., Detroit.

Water.....	19.80	per cent.
Ash.....	0.79	" "
Reducing sugar before inversion.....	42.69	" "
Reducing sugar after inversion.....	44.71	" "
Polarization before inversion.....	+104.	degrees.
Polarization after inversion.....	+103.	"
Starch paste.....		Present.
Color.....		Artificial.

Imitation fruit jelly artificially colored.

No. G-783. Sample of imitation current jelly from Dossier & Beaudoin, Detroit.

Sold (1899) by Chapman & Smith Co., Chicago, Ill.

Producer, Chapman & Smith Co., Chicago, Ill.

Water.....	36.32	per cent.
Ash.....	0.41	" "
Reducing sugar before inversion.....	36.87	" "
Reducing sugar after inversion.....	36.00	" "
Polarization before inversion.....	+118.	degrees.
Polarization after inversion.....	+112.2	"
Starch paste.....		Present.
Color.....		Artificial.

Imitation fruit jelly artificially colored.

MAPLE SYRUP.

No. G-780. Sample of maple syrup (Brand "Elk") from Chas. E. Funke, Detroit.

Sold by Avery Preserving Co., Detroit.

Producer, Avery Preserving Co., Detroit.

Water.....	48.62	per cent.
Ash.....	0.37	" "
Reducing sugar before inversion.....	12.00	" "
Reducing sugar after inversion.....	50.50	" "
Polarization before inversion.....	+66.5	degrees.
Polarization after inversion.....	+18.7	"

Adulterated with glucose.

No. L-94. Sample of maple syrup (Brand "Elk") from N. J. Wagner, Detroit.
 Sold (1899) by Chas. F. Funke & Co., Detroit.
 Producer, Avery Preserving Co., Detroit.

Water.....	42.60	per cent.
Ash.....	0.41	" "
Reducing sugar before inversion.....	12.30	" "
Reducing sugar after inversion.....	47.00	" "
Polarization before inversion.....	+57.	degrees.
Polarization after inversion.....	+13.2	" "

Adulterated with glucose.

MUSTARD (Dry).

No G-772—Sample of dry mustard (brand "Absolutely Pure") from Rose Gates, Wyandotte.

Sold (1899) by Taylor McLeisch & Co., Detroit.

Ash.....	6.09	per cent.
Mustard.....		
Coloring.....		Turmeric.

Artificially colored.

No. G-779. Sample of dry mustard from Josephine G. Dezel, Detroit.

Sold (1899) by W. A. King & Co., Detroit.

Ash.....	5.39	per cent.
Mustard.....		
Coloring.....		Turmeric.

Artificially colored.

No. K-98. Sample of dry mustard from DuMex Bros., Holland.

Sold (1899) by J. E. Burns Spice Co., Philadelphia, Pa.

Producer, J. E. Burns Spice Co., Philadelphia, Pa.

Ash.....	5.81	per cent.
Starch.....	14.06	" "
Mustard.....		
Color.....		Turmeric.

Adulterated with starch and artificially colored.

PEPPER.

No. G-776. Sample of pepper (brand "Pure Singapore Pepper") from John W. McGee, Detroit.

Sold (1899) by Adelphi Coffee Mills, New York City N. Y.

Ash.....	5.47	per cent.
Starch.....	40.18	" "
Piperine and resin.....	5.65	" "
Crude fibre.....	19.68	" "

Adulterated with wheat.

No. K-97. Sample of pepper (brand "Lampong Pepper") from J. & H. DeJough, Holland.

Sold (1899) by J. E. Burns Spice Co., Philadelphia, Pa.

Producer, J. E. Burns Spice Co., Philadelphia, Pa.

Ash.....	6.04	per cent.
Starch.....	35.16	" "
Piperine and resin.....	6.51	" "
Crude fibre.....	13.56	" "

Contains foreign starchy matter.

No. K-111. Sample of pepper from Fred J. Ferguson, Grand Rapids.
Sold (1899) by Daniel Lynch, Grand Rapids.

Ash.....	4.72 per cent.
Starch.....	46.87 " "
Piperine and resin.....	8.59 " "
Crude fibre.....	14.20 " "

Adulterated with wheat starch and contains foreign woody matter.

No. K-117. Sample of pepper from D. Christie, Muskegon.
Sold (1899) by J. E. Burns Spice Co., Philadelphia, Pa.
Producer, J. E. Burns Spice Co., Philadelphia, Pa.

Ash.....	5.89 per cent.
Starch.....	48.91 " "
Piperine and resin.....	7.77 " "

Contains foreign starchy matter.

No. K-125. Sample of pepper (brand "Black Pepper") from J. Feldmier, Muskegon.
Sold (1899) by George Hume & Co., Muskegon.

Ash.....	4.72 per cent.
Starch.....	46.88 " "
Piperine and resin.....	7.70 " "

Adulterated with wheat.

SYRUP.

No. K-124. Sample of syrup from Marie Bourassa, Muskegon.
Sold (1899) by W. J. Quan & Co., Chicago, Ill.

Water.....	24.55 per cent.
Ash.....	0.61 " "
Reducing sugar before inversion.....	38.39 " "
Reducing sugar after inversion.....	41.39 " "
Polarization before inversion.....	+ 149. degrees.
Polarization after inversion.....	+ 145.2 "

A glucose mixture.

VINEGAR.

No. B-212. Sample of cider vinegar (Brand "Red Star") from James W. Mothersill, Holly.

Sold (1899).

Producer, The Leroux Cider and Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0163.
Acid, as acetic.....	4.27 per cent.
Total solids.....	2.84 " "
Ash.....	0.34 " "
Organic acids.....	None.

Not pure cider vinegar.

No. G-767. Sample of cider vinegar (Brand "Red Star") from Joseph Girardin, Wyandotte.

Sold (1899) The Leroux Cider and Vinegar Co., Toledo, Ohio.

Producer, The Leroux Cider and Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0165.
Acid as acetic.....	4.13 per cent.
Total solids.....	3.18 " "
Ash.....	0.38 " "
Organic acids.....	None.

Not pure cider vinegar.

No. G-770. Sample of cider vinegar (Brand "Red Star") from The Genthe Table Supply Co., Wyandotte.

Sold (1899) by The Leroux Cider and Vinegar Co., Toledo, Ohio.

Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0182
Acid as acetic.....	4.32 per cent.
Total solids.....	3.26 " "
Ash.....	0.29 " "
Organic acids.....	None.

Not pure cider vinegar.

No. G-773. Sample of cider vinegar (Brand "Pure Apple Vinegar") from Carl Dice, Wyandotte.

Sold (1899) by Phelps, Brace & Co., Wyandotte.

Producer, Geo. D. Weird & Son, Ypsilanti.

Specific gravity.....	1.0156
Acid as acetic.....	4.73 per cent.
Total solids.....	2.15 " "
Ash.....	0.14 " "
Organic acids.....	Trace.

Below standard in ash, and ash is not that of pure cider vinegar.

No. I-363. Sample of vinegar (Brand "Simon Pure Apple Juice") from M. H. Morrow & C. E. Stone, Benton Harbor.

Sold (1899).

Producer, Durand & Kasper Co., Chicago, Ill.

Specific gravity.....	1.0125
Acid as acetic.....	3.25 per cent.
Total solids.....	2.19 " "
Ash.....	0.13 " "
Organic acids.....	Present.

Below the standard in acid strength and ash.

No. K-85. Sample of cider vinegar (Brand "Red Star") from Hixon & Bromley, Grand Ledge.

Sold (1893) by The Leroux Cider and Vinegar Co., Toledo, Ohio.

Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0189
Acid as acetic.....	4.34 per cent.
Total solids.....	3.04 " "
Ash.....	0.45 " "
Organic acids.....	None.

Not pure cider vinegar.

No. K-102. Sample of cider vinegar (Brand "Simon Pure Apple Juice Vinegar") from Pearson & Reber, Fremont.

Sold (1899) by Durand & Kasper Co., Chicago, Ill.

Specific gravity.....	1.0163
Acid as acetic.....	3.79 per cent.
Total solids.....	3.28 " "
Ash.....	0.14 " "
Organic acids.....	Trace.

Below the standard in acid strength and ash.

No. K-166. Sample of cider vinegar (Brand "Red Star") from Van Toll & Ekkens, Grand Haven.

Sold (1899) by The Leroux Cider & Vinegar Co., Toledo, Ohio.

Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0164
Acid as acetic.....	4.42 per cent.
Total solids.....	2.77 " "
Ash.....	0.31 " "
Organic acids.....	None.

Not pure cider vinegar.

No. K-107. Sample of cider vinegar (Brand "Red Star") from Peter Van Duin, Grand Haven.

Sold (1899) by The Leroux Cider & Vinegar Co., Toledo, Ohio.

Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0182
Acid as acetic.....	4.35 per cent.
Total solids.....	2.98 " "
Ash.....	0.41 " "
Organic acids.....	None.

Not pure cider vinegar.

No. K-113. Sample of cider vinegar (Brand "Pure Apple Cider Vinegar") from E. G. Roth, Grand Rapids.

Sold (1899) by Daniel Lynch, Grand Rapids.

Specific gravity.....	1.0078
Acid as acetic.....	3.41 per cent.
Total solids.....	1.01 " "
Ash.....	0.20 " "
Organic acids.....	Present.

Cider vinegar below the standard in solids, ash and acid strength.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1900

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

PROCESS BUTTER.

Particularly during the last two years a good deal has been heard of process or renovated butters being put upon the market.

This article is generally manufactured from the spoiled and rancid, poorly made and unsalable butters, which find their way onto the markets in the summer months when milk is plentiful and butter cheap.

It has been customary for city buyers to accumulate this butter and after allowing it to lie around upon dirty floors and unprotected from city dirt and temperature, to sell the same to butter renovators. In the winter time it is worked over by different processes, and has become quite a factor in the winter markets, sometimes as dairy butter and sometimes as creamery butter.

It is not for this Department to deal with the questionable methods sometimes used in the renovating process, but it is sufficient that the last Legislature passed a law requiring that all butters of this description be conspicuously labeled when placed on sale, and be sold as "Process Butter." The States of New York, Massachusetts, Pennsylvania and others, passed similar laws last year which are the first attempts by law-making bodies to regulate the sale of renovated butter.

The first difficulty met with in the enforcement of this legislation was the confessed inability of chemists to identify process butter and distinguish between it and true butter. Some time ago there appeared in the Bulletin a method produced by the chemists of the Dairy Department of a neighboring State. This method has proven not entirely satisfactory, the results obtained being not sufficiently positive to warrant prosecution.

The Department chemists have given considerable time to original research work for a competent method by which to positively identify process butter when placed in their hands. This has been accomplished, and the Department satisfied that a case under this statute can be sustained in the courts. Accordingly a prosecution has been begun in the county of Jackson against the local agent of Armour & Co., of Chicago,

for the sale of unbranded process butter. The defendant will be represented by attorneys sent from Chicago by Armour & Co., at the trial which takes place February 9.

In the meantime the Department is securing evidence against all illicit sales of process butter and will prosecute the same until restrained by the adverse decision of the Michigan Supreme Court.

CANDY.

The Department has been asked why we do not prosecute dealers who sell cheap and "adulterated" candies.

Under the laws of Michigan candy is only deemed adulterated when it contains terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors, flavors or extracts or other deleterious ingredients detrimental to health.

Analyses made at the Department laboratory of 220 samples of confectionery selected to cover the principal varieties found on the markets of Michigan fail to show any on which prosecution could be successfully brought.

At one time it was not uncommon to find poisonous mineral coloring matter in candies. Yellow was produced by the addition of chromate of lead, chromate of barium and compounds of arsenic and antimony; green by the use of compounds of arsenic and copper; blue by the addition of ferric ferrocyanide of iron, commonly called Prussian blue. The presence of sulphate of barium or barytes, gypsum, carbonate of lime and salts of zinc were not uncommon in uncolored confectionery.

In the investigations made at the Department laboratory no evidence was found of the use of these or any other poisonous inorganic or mineral coloring material. Colored candies were found to contain harmless organic coloring matter.

The principal sweetening ingredient of even the cheapest grades of candy was found to be pure cane sugar. A small amount of glucose, generally about 15 per cent, was common, probably used to prevent subsequent granulation on cooling.

The use of glucose in confectionery cannot be prevented under any existing law in Michigan.

No standard is fixed by statute, and in the absence of legislation defining what shall be considered "pure candy," any mixture containing saccharine matter may be sold under that designation, so long as the ingredients thereof are not injurious to health.

HONEY.

Unlike candy, honey is a specific article. It may be defined as the saccharine substance collected by the bee from the nectaries of flowers, and deposited by them in the cells of the comb.

Strained honey, that is honey separated from the comb, is pure when it contains only the materials of a liquid nature mentioned in the definition of pure honey given above, with such accidental solid particles, such as pollen, parts of bees, fragments of comb, etc., as would naturally be found therein.

All honey contains a certain amount of glucose, and this fact has been taken advantage of by dishonest producers who add commercial glucose to their product and place the same on sale, as strained honey.

Recently large quantities of a product of this nature were put on the markets of Michigan and offered for sale as pure strained honey.

The Department took the ground that there is a natural standard for honey and that samples found containing an excessive amount of glucose were adulterated.

This position was sustained on the 22d inst., in the Jackson circuit court by Judge Peck and a jury in the conviction of a local dealer charged with having sold honey adulterated with glucose.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	50
Cases nolle prossed*.....	13

CASES DISPOSED OF.

Before Examining Magistrates, 22 {	Defendants bound over to trial courts....	19
	Defendants discharged on examination..	3
In Trial Courts.....22 {	Defendants convicted.....	21
	Defendants acquitted.....	1
Cases pending February 1, 1900		28

PROCEEDINGS HAD DURING THE MONTH OF JANUARY, 1900.

Complaint was made on the 5th inst. in justice court of the city of Pontiac, against The Leroux Cider & Vinegar Co., of Toledo, Ohio, charged with having sold adulterated vinegar. Defendant entered a plea of guilty to said charge. A fine of \$50 was imposed by the court.

Complaint was made on the 5th inst. in justice court of the city of Wyandotte, against The Leroux Cider & Vinegar Co., of Toledo, Ohio, charged with having sold adulterated vinegar. Defendant entered a plea of guilty to said charge. A fine of \$50 was imposed by the court.

Complaint was made on the 6th inst. in justice court of the city of Grand Ledge, against The Leroux Cider & Vinegar Co., of Toledo, Ohio, charged with having sold adulterated vinegar. Defendant entered a plea of guilty to said charge. A fine of \$50 with costs taxed at \$3.91 was imposed by the court.

Complaint was made on the 10th inst. in justice court of the city of Ann Arbor, against George Hawes, of Ann Arbor, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held on the 25th inst. Defendant was discharged.

*Oleomargarine cases, Statute repealed.

Complaint was made on the 10th inst. in justice court of the city of Ann Arbor, against Charles J. Shetterly of Ann Arbor, Mich., charged with having served oleomargarine without displaying the required sign. Examination set for February 1.

Complaint was made on the 10th inst. in justice court of the city of Ann Arbor, against A. Johnson, representing R. A. Bartley, of Toledo, Ohio, charged with having sold glucose mixture improperly labeled. Examination set for February 9.

Complaint was made on the 11th inst. in justice court of the city of Pontiac, against Charles H. Halsey, of Pontiac, Mich., charged with having served oleomargarine without displaying the required sign. On the 18th inst. defendant waived examination and was bound over to the circuit court for the county of Oakland for trial. On the 22d inst. the case came up for trial in said court. Defendant entered a plea of guilty. A fine of \$50 was imposed by the court.

Complaint was made on the 11th inst. in justice court of the city of Pontiac, against W. J. LaFraugh, of Milford, Mich., charged with having served oleomargarine without displaying the required sign. On the 27th inst. defendant waived examination and was bound over to the circuit court of the county of Oakland for trial.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Thomas Swan, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held in part on the 26th inst. Hearing on the part of defendant adjourned until February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Henry J. Boerth, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. Examination set for February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Charles Heinicke, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. Examination set for February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Thomas Harrison, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held on the 26th inst. Will be argued and submitted on February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Francis A. Merritt, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held in part on the 26th inst. Hearing on the part of defendant adjourned until February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Allen P. Mason, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held in part on the 26th inst. Further hearing adjourned until February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Frank McGough, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. Examination set for February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Jacob A. Bastendorff, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held in part on the 26th inst. Further hearing adjourned until February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against John C. Beutler, of Detroit, Mich., charged with having served oleomargarine without displaying the regular sign. The examination in said case was held on the 26th inst. Will be argued and submitted on February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Fred Metzger, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. Examination set for February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against James T. Brady, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held on the 26th inst. Will be argued and submitted on February 16.

Complaint was made on the 11th inst. in the police court of the city of Detroit, against Frank A. Puddefoot, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held in part on the 26th inst. Further hearing adjourned until February 16.

Complaint was made on the 17th inst. in the police court of the city of Jackson, against Rollin G. Phelps, representing Armour & Company, of Chicago, Ill., charged with having sold process butter without being labeled as such. Trial set for February 2.

Complaint was made on the 18th inst. in justice court of the city of Muskegon, against James Preble, representing J. E. Burns & Co., of Philadelphia, Pa., charged with having sold adulterated pepper. Case pending.

Complaint was made on the 18th inst. in justice court of the city of Muskegon, against Charles H. Camp, representing W. J. Quan & Co., of

Chicago, Ills., charged with having sold glucose mixture without being properly labeled. Case pending.

Complaint was made on the 26th inst. in justice court of the village of Fremont, against Irving W. Feightner, representing Durand & Casper Co., of Chicago, Ills., charged with having sold adulterated vinegar. Case pending.

The case pending in the circuit court for the county of Ingham, against Clarence Philabaum, representing Franklin MacVeagh & Co., of Chicago, Ills., charged with having sold adulterated mustard, came up for trial on the 8th inst. Defendant, upon being arraigned, entered a plea of guilty to said charge. A fine of \$40 was imposed by the court.

In the case pending in the circuit court for the county of Ingham, against Charles P. Downey of Lansing, Mich., charged with having served oleomargarine without displaying the required sign, defendant, being arraigned in said court on the 15th inst., entered a plea of not guilty to said charge. Continued on motion of defendant until the March term of court.

In the case pending in justice court of the court of Paw Paw, against Theron M. Tracy, of South Haven, Mich., charged with having served oleomargarine without displaying the required sign, defendant on the 18th inst., waived examination and was bound over to the circuit court for the county of Ottawa for trial.

The case pending in the circuit court for the county of Jackson, against Martin G. Hakes, of Jackson, Mich., charged with having sold adulterated honey, came up for trial before Judge Peck and a jury in said court on the 22d inst. Defendant was convicted. Released on bonds to appear for sentence.

INSPECTIONS.

The following places were visited during the month of January by the Department's inspection force:

Adrian, Ypsilanti, Ann Arbor, Jackson, Monroe, Wayne, Halfway P. O., Roseville, Mt. Clemens, Detroit, Redford, Wyandotte, Sand Hill, Muskegon.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of January, 1900.

At Lansing:

I. Burrell—Condition of cows, fairly good and clean; feed, corn stalks, bran, hay and ground corn and oats, stables in fairly good condition and clean; yard, dry and clean; drainage, fair; ventilation, fair; water, well; uses an aerator.

W. L. Brown—Condition of cows, good and fairly clean; feed, corn meal, bran and corn fodder; stables, neat and clean; yard, clean and dry; drainage, fair; ventilation, fair; water, well; sells milk to I. Burrell.

W. L. Smith—Condition of cows, good and fairly clean; feed, ensilage, fodder corn, bran and ground corn and oats; stables, clean and neat; whitewashed; yard, fairly clean and dry; drainage, good; ventilation, fair; water, well; milk room neat and clean.

L. L. Whipple—Condition of cows, good and clean; feed, cut stalks, hay and bran; stables, neat and clean; whitewashed; drainage from stable, poor; yard, fairly dry and clean; manure deep in front of stable door; ventilation, good; water, well; milk room neat and clean; cement floor in milk room; uses an aerator.

George Sutliff—Condition of cows, good and clean; feed, clover hay, corn stalks, ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, spring; milk room neat and clean, but has no floor; uses an aerator; sells milk to L. L. Whipple.

N. N. Downer—Condition of cows, very good and clean; feed, corn fodder, hay and ground corn and oats; stables, very neat and clean and whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean, has cement floor; uses an aerator.

F. A. Johns—Condition of cows, fairly good, but not very clean; feed, corn stalks, oat straw, hay, bran and middlings; stables, neat and clean; partly whitewashed, uses lime on floors; yard, wet and dirty; drainage, fair; ventilation, good; water, well; milk room neat and clean; uses an aerator.

E. Killum—Condition of cows, good and clean; feed, mixed hay and oats; and ground corn; stables, neat and clean; walls, whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, city and well.

Dale Bros—Condition of cows, good and nearly all clean; feed, ensilage, clover hay, bran and ground corn and oats; stables, neat and clean; yard, fairly clean and dry; drainage, good; ventilation, fair; water, well; milk house, good, neat and clean cement floor; uses an aerator.

M. J. Stabler—Condition of cows, good and clean; feed, shredded fodder, clover hay, bran, and ground corn and oats; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean; uses an aerator; sells milk to Dale Bros.

Carl Banks—Condition of cows, good and clean; feed, ensilage, hay, bran and cotton seed meal; stables, in fairly good condition, and neat and clean; whitewashed; yard, fairly dry and clean; drainage, fair; ventilation, good; water, well; milk room neat, clean and fairly good; uses an aerator.

O. S. Bancroft—Condition of cows, good and clean; feed, corn stalks, mixed hay and ground corn and oats; stables, clean and neat, but some cobwebs on ceiling; partly whitewashed; yard, fairly clean and dry; drainage, fair; ventilation, good; water, well; milk room neat and clean; sells milk to Carl Banks.

C. A. Clements—Condition of cows, good and fairly clean; feed, ensilage, mixed hay and bran; stables, neat, clean and partly whitewashed; yard, a little wet and dirty; drainage, fair; ventilation, good; water, well; sells milk to Carl Banks.

R. I. Walker—Condition of cows, good and clean; feed, clover hay, corn stalks, and ground corn and oats; stables, clean and neat, whitewashed; yard, clean and dry; drainage from stable, fair; ventilation, fair; water, well; milk room, fairly good but clean and neat; sells milk to Carl Banks.

J. Slocum—Condition of cows, good and clean; feed, corn stalks, hay and ground corn and oats; stables, neat and clean; whitewashed; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; milk house neat and clean and has a cement floor; sells milk to Carl Banks.

A. S. Hume—Condition of cows, very good and very clean; feed, clover hay and ground corn and oats; stables, good; very neat and clean; cement floors; yard, clean and dry; drainage, good; ventilation, good; water, well; milk house neat and clean; sells milk to Carl Banks.

S. H. Preston—Condition of cows, good and fairly clean; feed, corn stalks, hay, bran and ground corn and oats; stables, clean and neat, but floors poor; yard, dry and fairly clean; ventilation, good; water, well; sells milk to Carl Banks.

T. E. Vallean—Condition of cows, good and clean; feed, corn stalks, hay, bran and ground corn and oats; stables, neat and clean; yard, very clean and dry; drainage, good; ventilation, good; water, well; milk room small but neat and clean; uses an aerator.

O. V. Reeves—Condition of cows, fairly good and clean; feed, cut stalks, hay, corn meal and bran; stables, fairly clean and neat; cobwebs on ceiling; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; uses an aerator; sells milk to T. E. Vallean.

L. W. Reeves—Condition of cows, good and fairly clean; feed, ensilage, hay, ground corn and oats, and corn stalks; stables, good, fairly clean and neat; some cobwebs on ceiling; condition of yard, clean and dry; drainage, good; ventilation, good; water, well; milk house neat and clean; uses an aerator.

J. D. Wait—Condition of cows, good and fairly clean; feed, corn stalks, hay and middlings; stables, fairly neat and clean; yard, clean and dry; drainage from stable, fair; ventilation, good; water, well; milk room neat and clean; uses an aerator.

C. P. Everett—Condition of cows, good and fairly clean; feed, ensilage, cut stalks, ground corn and oats; stables, neat, clean and whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator; sells milk to J. D. Wait.

H. C. Everett—Condition of cows, good and clean; feed, cut stalks, clover hay, ground corn and oats, bran and beets; stables, neat and clean; whitewashed; yard, fairly clean and neat; drainage, fair; ventilation, good; water, well; uses an aerator; sells milk to J. Jordan.

Chas. Everett—Condition of cows, good and clean; feed, cut stalks, hay, bran, ground corn and oats; stables, clean and neat; whitewashed but floors are poor; ventilation, good; water, well; milk house neat and clean, but needs new floor; uses an aerator; sells milk to J. Jordan.

C. S. Harris—Condition of cows, fairly good and clean; feed, cut stalks, bran, ground corn and oats, beets and carrots; stable, fairly neat and clean; has been whitewashed; yard, dry and fairly clean; drainage, good; ventilation, good; water, well; milk room neat and clean; uses an aerator; sells milk to J. Jordan.

D. F. Holmes—Condition of cows, good and fairly clean; feed, corn stalks, ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator; sells milk to N. H. Winans & Sons.

S. A. Fleming—Condition of cows, good and fairly clean; feed, corn stalks, hay, bran and corn meal; stables, neat and clean, partly white-washed, floors fairly good; yard, clean and dry, drainage, good; ventilation, good; water, well; milk room fairly good and neat and clean; uses an aerator; sells milk to N. H. Winans & Sons.

E. J. Holmes—Condition of cows, good and fairly clean; stables, neat and clean; yard, dry and fairly clean; drainage, good; ventilation, fair; water, well; uses an aerator; sells milk to N. H. Winans & Sons.

Bert Johns—Condition of cows, fairly good but dirty; feed, corn stalks, hay, ground corn and oats; yard, fairly clean and dry; drainage, fair; stables, old, but fairly clean and neat; ventilation, good; water, well; uses an aerator; sells milk to N. H. Winans & Sons.

E. C. Sharp—Condition of cows, good and clean; feed, corn stalks, hay and ground corn and oats; stables, fairly neat and clean; drainage, good; yard, dry and fairly clean; ventilation, good; water, well; uses an aerator; sells milk to N. H. Winans & Sons.

J. W. Franks—Condition of cows, very good and clean; feed, clover hay, corn stalks, bran and ground corn and oats; yard, clean and dry, drainage good; stables, good, very neat and clean; ventilation, good; water, well; milk room clean and neat; uses an aerator; sells milk to N. H. Winans & Sons.

John Huxtable—Condition of cows, good and clean; feed, corn stalks, clover hay; oat straw, cob meal and bran; stables, fairly good and neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator; sells milk to N. H. Winans & Sons.

J. W. Wolford—Condition of cows, very good and clean; feed, ensilage, clover hay, ground corn and oats; stables, clean and neat; yard, fairly dry and clean; drainage, fair; ventilation, good; water, well; milk room neat and clean; uses an aerator; sells milk to N. H. Winans & Sons.

Frank Schultz—Condition of cows, good and fairly clean; feed, ensilage, corn stalks and bran; stables, fairly neat and clean, partly whitewashed; some cobwebs on ceiling; yard, clean and dry; drainage from stable, fair; ventilation, good; water, well; milk room fairly neat and clean; uses an aerator; sells to N. H. Winans & Sons.

J. E. Banghart—Condition of cows, good and clean; feed, cut corn stalks; clover hay, ground corn and oats and roots; stables, neat and clean; whitewashed and uses lime on floors; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room clean and neat; uses an aerator; sells milk to J. W. Hazelton.

William Anderson—Condition of cows, fair but clean; feed, fodder, corn, hay, bran, cob meal and ground oats; stables neat and clean; floors poor; drainage, poor; ventilation, good; water, creek; milk room small but neat and clean; uses an aerator; sells milk to J. W. Hazelton.

Henry Walker—Condition of cows, good and fairly clean; feed, shredded fodder, cob meal and bran; stables, fairly neat and clean; partly white-washed; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room fair; uses an aerator; sells milk to Swift.

W. H. Taylor—Condition of cows, good and clean; feed, corn stalks and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Swift.

C. L. Seeley—Condition of cows, very good and clean; feed, clover hay, corn stalks, ground corn and oats, and oil meal; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room very neat and clean.

J. S. Ashworth—Condition of cows, fairly good, but very dirty; feed, shredded fodder, hay, corn and oat chop; stables, poor, fairly neat and clean, partly whitewashed, floors, poor, ceiling, poor; no yard; ventilation, fair; water, city; uses an aerator.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., January 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of January, 53 samples of food products have been examined, 31 being pure and 22 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles	Total.	Number pure.	Number adulterated.
Buckwheat flour.....	2	2	0
Butter.....	15	3	12
Candy.....	9	9	0
Coffee.....	1	1	0
Cream of Tartar.....	2	2	0
Extracts (Flavoring).....	17	9	8
Jelly.....	2	0	2
Oleomargarine.....	3	3	0
Syrup.....	2	2	0
Totals.....	53	31	22

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUTTER.

No. A-320. Sample of butter from Miller & Pray, Ann Arbor.
Sold (1899) by **Parsons & Co., Ann Arbor.**

Process butter. Not properly labeled.

No. I-351. Sample of butter from McWilliams & Moore, Detroit.
Process butter. Not properly labeled.

No. I-352. Sample of butter from Peter Smith & Sons, Detroit.
Process butter. Not properly labeled.

No. I-393. Sample of butter from Pierce, Cassidy & Co., Jackson.
Sold (1899).

Producer, Armour & Co., Chicago, Ill.

Process butter. Not properly labeled.

No. I-394. Sample of butter from Isaac R. Wilson, Jackson.
Sold (1899).

Producer, Armour & Co., Chicago, Ill.

Process butter. Not properly labeled.

No. I-397. Sample of butter from Isaac R. Wilson, Jackson.
Sold (1900).

Producer, Armour & Co., Chicago Ill.

Process butter. Not properly labeled.

No. I-398. Sample of butter from Martin O'Meara, Jackson.
Sold (1900).

Producer, Armour & Co., Chicago, Ill.

Process butter. Not properly labeled.

No. I-399. Sample of butter from Armour & Co., Jackson.
Sold (1900).

Producer, Armour & Co., Chicago, Ill.

Process butter. Not properly labeled.

No. I-401. Sample of butter from McWilliams & Moore, Detroit.
Sold (1900) by **Geo. E. Walker, Broker, Detroit.**

Producer, J. N. Adams, Chicago, Ill.

Process butter. Not properly labeled.

No. G-785. Sample of butter from Charles E. Hagerman, Consumer, Detroit.
Sold by **Robert Williams, Detroit.**

Oleomargarine.

No. G-822. Sample of butter from Debo & Son, Hotel Arlington, Wyandotte.
Oleomargarine; no signs displayed in room.

No. K-127. Sample of butter from Burt Lee & Co., Muskegon.
Sold (1899) by Moulton & Riedel, Muskegon.
Process butter. Not properly labeled.

EXTRACTS (Flavoring).

No. A-343. Sample of "B. & C. Extract of Vanilla" from C. F. Pardon, Ann Arbor.
Sold by Berdan & Co. Toledo, Ohio.
Producer, Banks & Clark, Toledo, Ohio.

Vanillin	0.108 per cent.
Coumarin	0.081 " "
Vanilla resin	Trace.
Organic acids	Present.
Color	Artificial.

Adulterated with coumarin. Artificially colored.

No. A-344. Sample of "Farina Extract of Vanilla" from John Goetz & Son, Ann Arbor.
Sold (1899) by R. A. Bartley, Toledo, Ohio.
Producer, Olen A. Clark, Toledo, Ohio.

Vanillin	0.070 per cent.
Coumarin	0.047 " "
Vanilla resin	Trace.
Organic acids	Present.
Color	Artificial.

Adulterated with coumarin. Artificially colored.

No. G-792. Sample of "Wright's Extract of Tonka," from Mack Grocery Co., Detroit.
Sold (1900) by Seeley Manufacturing Co, Detroit.

Vanillin	None.
Coumarin	0.096 per cent.
Vanilla resin	None.
Organic acids	None.
Color	Artificial.

An artificial preparation.

No. G-797. Sample of "Peerless Flavors. Vanilla," from Wilson Bros., Detroit.
Sold (1899) by Frederick F. Ingram & Co., Detroit.
Producer, Frederick F. Ingram & Co., Detroit.

Vanillin	0.358 per cent.
Vanilla resin	None.
Organic acids	Present.
Color	Artificial.

An artificial preparation. Artificially colored.

No. G-799. Sample of "Concentrated Extract of Vanilla," from Moyer & Bloink, Detroit.
Sold (1899) by A. B. Campbell & Co., Detroit.
Producer, A. B. Campbell & Co., Detroit.

Vanillin	0.104 per cent.
Coumarin	0.114 " "
Vanilla resin	None.
Organic acids	None.
Color	Artificial.

An artificial preparation. Artificially colored.

No. G-801. Sample of "Crown Vanilla" from Geo. E. Granzow, Detroit.
 Sold (1899) by The Crown Syrup and Flavor Co., Detroit.
 Producer, The Crown Syrup and Flavor Co., Detroit.

Vanilla	0.040 per cent.
Coumarin	0.096 " "
Vanilla resin	None.
Organic acids	None.
Color	Artificial.

An artificial preparation. Artificially colored.

No. G-808. Sample of "O. K. Vanilla Tonka" from McRae Bros., Detroit.
 Sold (1899) by The C. L. Cotton Extract Co., Earlville, N. Y.
 Producer, The C. L. Cotton Extract Co., Earlville, N. Y.

Vanillin	None.
Coumarin	0.090 per cent.
Vanilla resin	None.
Organic acids	Present.
Color	Natural.

An extract of tonka.

No. G-811. Sample of "Pure Concentrated Extract of Tonka Vanilla" from Edward G. Villerot, Detroit.
 Sold (1899) by E. N. Lightner, Detroit.
 Producer, J. D. Mitchell, Detroit.

Vanillin	0.021 per cent.
Coumarin	0.138 " "
Vanilla resin	None.
Organic acids	None.
Color	Artificial.

An artificial preparation.

JELLY.

No. G-802. Sample of jelly from Geo. E. Granzow, Detroit.
 Sold (1899) by W. E. Heames & Co, Detroit.

Water	28.66 per cent.
Ash	0.62 " "
Reducing sugar before inversion	32.05 " "
Reducing sugar after inversion	33.33 " "
Polarization before inversion	+129. degrees.
Polarization after inversion	+124. "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

No. G-804. Sample of imitation fruit jelly from John Weaver, Detroit.
 Sold (1899) by Dossin & Beaudoin, Detroit.

Water	17.60 per cent.
Ash	0.48 " "
Reducing sugar before inversion	32.11 " "
Reducing sugar after inversion	33.05 " "
Polarization before inversion	+116. degrees.
Polarization after inversion	+113.7 "
Starch paste	Present.
Color	Artificial.

Artificially colored.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

REGISTRATION OF CHEESE FACTORIES AND CREAMERIES.

The attention of all proprietors of cheese factories, creameries and butter factories where milk or cream is purchased of or contributed by three or more persons is called to the provision of the statute requiring them to register the location of such factory and the name of its owner or manager with this Department on or before the first day of the coming April. Factories registered for the fiscal year beginning April 1, 1899, and intending to continue business after April 1, 1900, must re-register, the intent of the statute being that a new registration be had each year. No fee is required for such registration.

Manufacturers of cheese desiring to use the "Michigan Full Cream Cheese" brand must register with the Department and remit the required fee of one dollar on or before April 1, 1900. Those already provided with brands and who desire to continue the use of the same after April 1, 1900, must re-register and pay the statutory fee.

Blanks upon which to make such registration will be furnished upon application to this office.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	54
Cases nolle prossed*.....	13

CASES DISPOSED OF.

Before Examining Magistrates, 28 {	Defendants bound over to trial courts....	24
	Defendants discharged on examination..	4
In Trial Courts.....24 {	Defendants convicted.....	23
	Defendants acquitted.....	1
Cases pending March 1, 1900		29

PROCEEDINGS HAD DURING THE MONTH OF FEBRUARY, 1900.

Complaint was made on the 5th inst. in justice court of the city of Muskegon against L. M. Patterson, representing Northrup, Robertson and Carrier, of Lansing, Mich., charged with having sold adulterated extract of vanilla. Case pending.

Complaint was made on the 5th inst. in justice court of the city of Muskegon against John Skillman, representing Reid, Murdock and Co., of Chicago, Ill., charged with having sold adulterated extract of vanilla. On the 12th inst. defendant waived examination and was bound over to the circuit court for the county of Muskegon for trial.

Complaint was made on the 10th inst. in the police court of the city of Detroit against Samuel G. Moyer, of Detroit, Mich., charged with having sold adulterated extract of vanilla. The examination in said case was held on the 20 inst. Defendant was bound over to the recorder's court of the city of Detroit for trial.

Complaint was made on the 10th inst. in the police court of the city of Detroit against Edwin N. Lightner, of Detroit, Mich., charged with having sold adulterated extract of vanilla. On the 20th inst. defendant waived examination and was bound over to the recorder's court of the city of Detroit for trial.

*Oleomargarine cases, Statute repealed.

The examination in the case pending in justice court of the city of Ann Arbor against Albert Johnson representing R. A. Bartley, of Toledo, Ohio, charged with having sold glucose mixture improperly labeled, was held on the 9th inst. Defendant was bound over to the circuit court of the county of Washtenaw for trial.

The examination in the case pending in justice court of the city of Ann Arbor against Charles J. Shetterly, of Ann Arbor, Mich., charged with having served oleomargarine without displaying the required sign, was held on the 9th inst. Defendant was discharged.

In the case pending in the circuit court for the county of Van Buren against Theron M. Tracey, of South Haven, Mich., charged with having served oleomargarine without displaying the required sign, the defendant on the 16th inst. entered a plea of guilty. A fine of \$50.00 was imposed by the court.

In the case pending in justice court of the city of Muskegon against Charles H. Camp, representing W. J. Quan & Co., of Chicago, Ill., charged with having sold glucose mixture improperly labeled, defendant on the 27th inst. waived examination, and was bound over to the circuit court for the county of Muskegon for trial.

The examination in the case pending in the police court of the city of Detroit against Charles Heinicke, of Detroit, Mich., charged with having served oleomargarine without displaying the required sign, was held on the 16th inst. Will be argued and submitted on March 16th.

INSPECTIONS.

The following places were visited during the month of February by the department's inspection force:

Milan, Dundee, Adrian, Ida, Blissfield, Steiner, Tecumseh, Hudson, Ottawa, Ann Arbor, Manchester, Monroe, Petersburg, Deerfield, Rockwood, Newport, Lawton, Decatur, Buchanan, Niles, Cassopolis, Paw Paw, Hartford, Bangor, Grand Rapids.

REPORT OF DAIRIES INSPECTED DURING THE MONTH OF FEBRUARY, 1900.

At Ypsilanti:

O. A. Ainsworth—Condition of cows, good and clean; feed, hay, ensilage, cut cornstalks, ground corn, oats and bran; stables, very neat and clean, whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well and city; milk room, neat and clean; uses an aerator.

R. G. Barnes—Condition of cows, good and clean; feed, cut cornstalks and hay, ground corn and oats, and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring; uses an aerator.

I. B. LeFurge—Condition of cows, fairly good and fairly clean; feed, hay, cornstalks, ground corn and oats; stables, fairly neat and clean, some cobwebs on ceilings; yard, clean and dry, drainage, good; ventilation good; water, well; milk room neat and clean; uses an aerator.

Scotney Bros.—Condition of cows, good and clean; feed, clover hay, ensilage, shredded fodder, ground corn and oats; stables, neat and clean, and partly whitewashed; yard, dry and fairly clean; drainage good; ventilation, good; water, well; milk room neat and clean; uses an aerator.

George Wilber—Condition of cows, fairly good but dirty; feed, cornstalks, hay, sugar beets, ground corn and oats; stables in poor condition and just fairly clean; yard, fairly clean and dry; ventilation, good; water, well.

Mrs. J. S. Harrison—Condition of cows, fair but dirty; feed, cornstalks, hay, ground corn and oats; stables, fairly neat and clean; yard, clean and dry; drainage, fair; ventilation, fair; water, well; milk room clean and neat; uses an aerator.

F. R. Emerick—Condition of cows, fine and very clean; feed, ensilage, hay, cornstalks, gluten feed and bran; stables, clean and neat; yard, fairly clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean; uses an aerator.

E. L. Brown—Condition of cows, good and clean; feed, corn meal, ground oats, bran, cut stalks and hay; stables, neat and clean, nicely whitewashed; yard, clean and dry, drainage, good; ventilation, good; ventilation, good; water, well; milk room neat and clean.

At Battle Creek:

M. S. Walkinghut—Condition of cows, good and fairly clean; feed, cornstalks and cob meal; stables, rather dirty, cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, spring; sells milk to G. J. Wolf.

C. H. Wheelock—Condition of cows, good and fairly clean; feed, cornstalks, hay, cobmeal and bran; stables, fairly clean and neat; partly whitewashed, some dust and cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room very neat and clean; sells milk to G. J. Wolf.

C. M. Smith—Condition of cows, good and clean; feed, cornstalks, hay, brand and corn meal; stables, neat and clean, part of ceiling poor; yard, clean and dry, drainage, good; ventilation, good; water, well; sells milk to John Dewater.

C. B. Convis—Condition of cows, good and fairly clean; feed, cornstalks and hay, ground corn and oats, cobmeal and bran; stables, fairly neat and clean; some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to A. Sackett.

J. W. Johnson—Condition of cows, good and clean; feed, cornstalks, hay, bran and corn meal; stables, fairly neat and clean; some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, fair; water, spring brook; sells milk to T. Johnson.

I. M. Wilison—Condition of cows, good and clean; feed, ensilage, cornstalks, corn, cornmeal, and cotton seed meal; stables, neat and clean; nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; uses an aerator; sells milk to Fred Woodworth.

R. Kingmond—Condition of cows, good generally clean; feed, cornstalks, hay, bran and corn meal; stables, neat and clean; nicely whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Fred Woodworth.

H. R. Kingmond—Condition of cows, fine and clean; feed, ensilage, cut stalks, barley, bran and shorts; stables, neat and clean and nicely white-washed; ventilation, good; yard, clean and dry, drainage, good; water, well; sells milk to Fred Woodworth.

Hussey & Stringham—Condition of cows, good and clean; feed, cornstalks, cornmeal and bran; stables, fairly neat and clean, some cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well and creek; milk room good, neat and clean.

Benjamin Reid—Condition of cows, good and clean; feed, cornstalks, hay, ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean.

D. Eccles—Condition of cows, fairly good but a little dirty; feed, ensilage, hay and cornmeal; stables, fairly neat and clean, some cobwebs on ceiling; yard, clean and dry, drainage, good; ventilation, good; water, well; milk room neat and clean.

George Brininstool—Condition of cows, good and clean; feed, cornstalks, hay, cobmeal and bran; stables, neat and clean except some cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to M. M. Paul.

Ed. Sanford—Condition of cows, good and clean; feed, ensilage, hay, cornstalks, and bran and cobmeal; stables, neat and clean, except some cobwebs on ceiling; yard, clean and dry, drainage, good; ventilation, good; water, well; uses an aerator in stable; sells milk to M. M. Paul.

G. W. Betterley—Condition of cows, fairly good but somewhat dirty; feed, cornstalks, hay, ground corn and oats and bran; stables, fairly neat and clean, some cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator.

C. Redfield—Condition of cows, good and clean; feed, cornstalks, hay, cornmeal and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to G. W. Betterley.

B. M. Minty—Condition of cows, good and clean; feed, cornstalks, hay, cornmeal, bran and shorts; stables, neat and clean, ceilings, poor; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, good, neat and clean; sells milk to J. A. Paul.

E. D. Andrus—Condition of cows, fairly good, somewhat dirty; feed, cornstalks, cornmeal and bran; stables, fairly neat and clean; some dust and cobwebs on ceiling; yard, clean and dry, drainage, good; ventilation, good; water, well; milk room neat and clean; sells milk to J. A. Paul.

M. P. Hansen—Condition of cows, good and clean; feed, cornstalks, hay, bran and ground corn and oats; stables, neat and clean, ceiling, poor; yard, clean and dry; ventilation, good; water, well; sells milk to Ongy Adams.

Onyx Adams—Condition of cows, good but rather dirty; feed, ensilage, cornstalks and cobmeal; stables, fairly neat and clean; ceilings, dusty and full of cobwebs; yard, clean and dry, drainage, good; ventilation, good; water, well; uses an aerator; sells milk to J. Biety.

George R. Peet—Condition of cows, good and clean; feed, cornstalks, hay, cornmeal and bran; stables, fairly good and clean; lots of cobwebs on ceilings and walls; floors, poor; yard clean and dry, drainage, good; ventilation, fair; water, well; sells milk to J. Biety.

Thomas Mitchell—Condition of cows, fair but dirty; feed, hay, cornmeal and bran; stables, fairly neat and clean; yard, clean and dry; drainage, fair; ventilation, good; water, spring brook; strains milk in stable.

M. Tuttle—Condition of cows, good and clean; feed, ensilage, cornmeal, and corn fodder; stables, neat and clean, some cobwebs on ceilings which are also poor; yard, clean and dry, drainage, good; ventilation, good; water, well; sells milk to Tom Mitchell.

Edward Morgan—Condition of cows, good and clean; feed, cornstalks, hay, straw, bran, cornmeal and shorts; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Battle Creek Creamery.

W. W. Sprague—Condition of cows, fine and clean; feed, ensilage, cornstalks, bran, cornmeal and cotton seed meal; stables, very neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, water, well; strains milk in stable; sells milk to Battle Creek Creamery.

J. W. Rolfe—Condition of cows, good and fairly clean; feed, cornstalks, hay, bran and cornmeal; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Battle Creek Creamery.

William Morgan—Condition of cows, fine and nearly all clean; feed, cornstalks, bran and Victor feed; stables, neat and clean except some cobwebs on ceilings; yard, very clean and dry; drainage from stable, fair; ventilation, good; water, well; uses an aerator in stable; sells milk to Battle Creek Creamery.

I. C. Willis—Condition of cows, good and fairly clean; feed, corn fodder, hay, cobmeal and corn; stables in poor condition and dirty; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room good and very neat and clean; sells milk to Battle Creek Creamery.

B. F. Morgan—Condition of cows, good and fairly clean; feed, ensilage, hay, corn fodder, bran, Victor feed and cornmeal; stables, fairly clean and neat, ceilings, poor and floors poor; yard, clean and dry, drainage from stable, poor; ventilation, fair; water, well; uses an aerator; sells milk to Battle Creek Creamery.

A. G. Johnson—Condition of cows, fair and fairly clean; feed, ensilage, corn fodder and bran; stables, fairly clean and neat, ceilings, poor; yard clean and dry; drainage, good; ventilation, good; water, well; sells milk to Battle Creek Creamery.

Frank Hawkins—Condition of cows, good and fairly clean; feed, cornstalks, hay and bran; stables, fairly neat and clean, some cobwebs on ceilings; yard, clean and dry, drainage, good; ventilation, good; water, well; sells milk to Battle Creek Creamery.

J. M. Lampky—Condition of cows, fairly good, somewhat dirty; feed, cornstalks, hay, cobmeal and bran, stables, fairly neat and clean; some cobwebs on ceilings; no floors in stable; yard, clean and dry; ventilation, good; water, well; sells milk to Battle Creek Creamery.

E. G. Beckley—Condition of cows, good and fairly clean; feed, ensilage, corn fodder, hay, cobmeal and ground oats; stables, neat and clean, except cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well; sells to Battle Creek Creamery.

Frank Sterling—Condition of cows, good and clean; feed, cornstalks, hay, cobmeal and ground oats; stables, neat and clean except cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Battle Creek Creamery.

J. McBain—Condition of cows, fine and fairly clean; feed, ensilage, cornstalks, hay, cobmeal and ground oats; stables, neat and clean, some cobwebs on ceilings; yard, clean and dry, drainage, good; ventilation, good; water, well; uses an aerator; sells milk to Battle Creek Creamery.

G. C. Hicks—Condition of cows, good and clean; feed, ensilage, hay, cornstalks, cobmeal, bran and cotton seed meal; stables, neat and clean; and have cement floors; yard, clean and dry, drainage, good; ventilation, good; water, well; sells milk to Battle Creek Creamery.

S. E. Woodworth—Condition of cows, good and generally clean; feed, ensilage, cut stalks, bran and Victor feed; stables, fairly neat and clean, some dust and cobwebs on ceilings; yard, dry and fairly clean; drainage from stable, poor; ventilation, good; water, spring; sells to Battle Creek Creamery.

M. C. Sharpstein—Condition of cows, good and clean; feed, cornstalks, and corn and ground oats; stables, fairly neat and clean some cobwebs on ceilings; yard, clean and dry; drainage, fair; ventilation, good; water, well; sells milk to Sanitarium.

Joslyn & Davis—Condition of cows, good and clean; stables, neat and clean, feed, cornstalks, hay, ground corn and oats and bran; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean; sells milk to Battle Creek Sanitarium.

R. B. Cowles—Condition of cows, good and clean; stables, neat and clean except some cobwebs on ceilings; yard clean and dry; drainage, poor; ventilation, good; water, well; strains milk in stable; sells milk to Battle Creek Sanitarium.

E. Cowles—Condition of cows, good and clean; feed, cornstalks, hay, cornmeal and ear corn; stables, neat and clean, except some cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Battle Creek Sanitarium.

W. G. Simons—Condition of cows, good and clean; feed, cornstalks, hay, ground corn and oats and barley bran; stables, neat and clean except some cobwebs on ceilings; yard, clean and dry; ventilation, fair; water, well; sells milk to Battle Creek Sanitarium.

A. Lindsay—Condition of cows, good and clean; feed, cornstalks, hay straw, bran and cornmeal; stables, fairly neat and clean although some cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, spring creek; sells milk to Battle Creek Sanitarium.

Austin Sanitarium Farm—Condition of cows, fairly good but clean; feed, cornstalks, marsh hay, cornmeal and bran; stables, neat and clean, nicely whitewashed; yard, clean and dry, drainage, good; ventilation, good; water, well; strains milk in stable; sells milk to Battle Creek Sanitarium.

C. M. Christianson—Condition of cows, good and clean; feed, hay, corn fodder and bran; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; strains milk in stable; sells milk to Battle Creek Sanitarium.

Spring Lake Sanitarium Farm—Condition of cows, fair and fairly clean; feed, corn fodder, millet, bran and cereal bran; stables, neat and clean and nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, spring; strains milk in stable; sells milk to Battle Creek Sanitarium.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., February 28, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of February 48 samples of food products have been examined, 27 being pure and 21 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Butter.....	18	9	4
Extracts (flavoring).....	26	14	12
Jelly.....	4	0	4
Pepper.....	1	1	0
Syrup.....	3	2	1
Vinegar.....	1	1	0
Totals.....	48	27	21

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUTTER.

No. I-403. Sample of butter from Mrs. Katherine S. Fletcher, Sherman House, Mt. Clemens.

Oleomargarine; no sign displayed in room.

No. I-404. Sample of butter from William E. Hall, Hall House, Mt. Clemens.

Oleomargarine; no sign displayed in room.

No. I-410. Sample of butter from Martin Schaaf, National Hotel, Mt. Clemens.

Oleomargarine; no sign displayed in room.

No. K-135. Sample of butter from John Wierenge, Grand Rapids.
Sold (1900) by M. Heyboer, Grand Rapids.

Process butter; not properly labeled.

EXTRACTS (Flavoring).

No. A-342. Sample of "Berdan's Gilt Edge Flavoring Extract Vanilla" from C. F. Pardon, Ann Arbor.

Sold 1899 by Berdan & Co. Toledo, Ohio.

Vanillin	0.083 per cent.
Coumarin	0.017 " "
Vanilla resin	Present.
Organic acids, and gums, etc.	Present.
Coloring	Artificial.

Adulterated with coumarin and artificially colored.

No. A-362. Sample of "Clark's Imperial Extract of Vanilla" from Christ Witt, Ida.
Sold (1899).

Producer, Olen A. Clark, Toledo, Ohio.

Vanillin	0.041 per cent.
Coumarin	0.039 " "
Vanilla resin	Trace.
Organic acids, gums, etc.	Present.

Adulterated with coumarin.

No. A-363. Sample of "Cameo Standard Extract Vanilla" from C. Witt, Ida.
Sold (1899) by R. A. Bartley, Toledo, Ohio.

Producer, Cameo Mfg. Co., Chicago, Ill.

Vanillin	0.092 per cent.
Coumarin	0.010 " "
Vanilla resin	None.
Organic acids, gums, etc.	None.
Color	Artificial.

Adulterated with coumarin and artificially colored.

No. G-815. Sample of "Pure Concentrated Extract of Vanilla and Tonka" from Adolph Smith, Wyandotte.

Sold (1899) by J. E. Wallace, Detroit.

Producer, Wm. Kruse, Detroit.

Vanillin.....	0.106 per cent.
Coumarin.....	0.108 " "
Vanilla resin.....	None.
Organic acids, gum, etc.....	None.
Color.....	Artificial.

Adulterated with coumarin and artificially colored.

No. G-821. Sample of "Concentrated Extract of Vanilla" from Conrad Genthe, Wyandotte.

Sold (1900) by Grand Union Tea Co., Detroit.

Producer, Grand Union Tea Co., New York City.

Vanillin.....	0.063 per cent.
Coumarin.....	None.
Vanilla resin.....	Present.
Organic acids, gums, etc.....	Present.
Color.....	Artificial.

Artificially colored.

No. G-825. Sample of "Concentrated Extract of Vanilla" from Albert Ross, Detroit.
Sold (1899) by Thos. McNamara, Detroit.

Producer, Frontenac Mfg. Co., Detroit.

Vanillin.....	0.154 per cent.
Coumarin.....	None.
Vanilla resin.....	None.
Organic acids, gums, etc.....	None.
Color.....	Artificial.

An artificial preparation.

No. G-827. Sample of "Concentrated Extract of Vanilla" from Grand Union Tea Co., Detroit.

Sold, (1899) by Grand Union Tea Co., Detroit.

Producer, Grand Union Tea Co., Brooklyn, N. Y.

Vanillin.....	0.063 per cent.
Coumarin.....	None.
Vanilla resin.....	Present.
Organic acids, gums, etc.....	Present.
Color.....	Artificial.

Artificially colored.

No. G-829. Sample of extract of vanilla from Acme No-Ticket Tea Co., Detroit.
Sold (1899) by Michigan Perfume Co., Three Rivers.

Producers, Michigan Perfume Co., Three Rivers.

Vanillin.....	0.055 per cent.
Coumarin.....	0.038 " "
Vanilla resin.....	Present.
Organic acids, gums, etc.....	Present.
Color.....	Artificial.

Adulterated with coumarin and artificially colored.

No. G-833. Sample of extract of "vanilla tonka" (Brand "Majestic") from C. A. Shafer, Detroit.

Producer, C. A. Shafer, Detroit.

Vanillin.....	0.022 per cent.
Coumarin.....	0.026 " "
Vanilla resin.....	Trace.
Organic acids, gums, etc.....	Present.

Word "Tonka" on label not sufficiently conspicuous.

No. K-129. Sample of "Standard Compound Extract of Vanilla and Tonka" from J. O. Jeannot, Muskegon.

Sold (1899) by Reid Murdock & Co., Chicago, Ill.

Producer, Reid Murdock & Co., Chicago, Ill.

Vanillin.....	None.
Coumarin.....	0.028 per cent.
Vanilla resin.....	None.
Organic acids, gums, etc.....	"
Color.....	Artificial.

An artificial preparation of coumarin.

No. K-131. Sample of "Capital Extract of Vanilla and Coumarine" from S. Bosch, Muskegon.

Sold (1899) by Nrothrup, Robertson & Carrier, Lansing.

Producer, Capital Extract Co., Lansing.

Vanillin.....	0.060 per cent.
Coumarin.....	0.173 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	"
Color.....	Artificial.

An artificial preparation.

No. K-134. Sample of "Capital Extract of Vanilla and Coumarine" from Goosen Bros., Grand Rapids.

Sold (1900) by Northrup, Robinson & Carrier, Lansing.

Producer, Capital Extract Co., Lansing.

Vanillin.....	0.060 per cent.
Coumarin.....	0.173 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	None.
Color.....	Artificial.

An artificial preparation.

JELLY.

No. A-355. Sample of strawberry jelly (Brand "Dove") from A. R. Lower, Adrian.

Sold (1900) by Church McConnell Co., Toledo, Ohio.

Producer, Frank Vogel Co., Allegheny, Pa.

Water.....	34.62 per cent.
Ash.....	0.42 " "
Reducing sugar before inversion.....	37.65 " "
Reducing sugar after inversion.....	57.38 " "
Polarization before inversion.....	45. degrees.
Polarization after inversion.....	16.5. "
Color.....	Artificial.

Imitation fruit jelly artificially colored.

No. A-356. Sample of raspberry jelly (Brand "Dove") from E. E. Burnham & Co., Deerfield.

Sold (1899) by The Church McConnell Co., Toledo, Ohio.

Producer Frank Vogel Co., Allegheny, Pa.

Water.....	31.76 per cent.
Ash.....	0.40 " "
Reducing sugar before inversion.....	40.00 " "
Reducing sugar after inversion.....	60.68 " "
Polarization before inversion.....	+ 48. degrees.
Polarization after inversion.....	+ 17.6 "
Color.....	Natural.

An imitation fruit jelly.

No. A-361. Sample of currant jelly (Brand "Dove") from Robert Bros., Monroe.

Sold (1900) by Church McConnell Co., Toledo, Ohio.

Producer Frank Vogel Co., Allegheny, Pa.

Water.....	27.13 per cent.
Ash.....	0.40 " "
Reducing sugar before inversion.....	38.46 " "
Reducing sugar after inversion.....	62.11 " "
Polarization before inversion.....	+ 49. degrees.
Polarization after inversion.....	+ 15.8 "

Imitation fruit jelly.

No. A-365. Sample of strawberry jelly (Brand "Champion") from Lamb & Seager, Blissfield.

Sold (1899) by Braddock & Overmeyer, Toledo, Ohio.

Producer, Champion Syrup Refining Co., Indianapolis, Ind.

Water.....	36.28 per cent.
Ash.....	.57 " "
Reducing sugar before inversion.....	28.28 " "
Reducing sugar after inversion.....	31.25 " "
Polarization before inversion.....	+ 125 degrees.
Polarization after inversion.....	+ 121 "
Starch paste.....	Present.
Color.....	Artificial.

Imitation fruit jelly artificially colored.

SYRUP.

No. K-133. Sample of sugar syrup from G. H. Binink, Muskegon.

Sold (1900) by George Hume & Co, Muskegon.

Water.....	28.38 per cent.
Ash.....	2.98 " "
Reducing sugar before inversion.....	32.47 " "
Reducing sugar after inversion.....	49.36 " "
Polarization before inversion.....	+ 90 degrees.
Polarization after inversion.....	+ 62.7 "

A glucose mixture.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1900

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE
1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

THE QUESTION OF PROCESS BUTTER.

The recent case brought by the department under the process butter law against the Jackson agent of Armour & Co. is another indication that prosecutions under food laws are not always decided upon the proofs. It will be remembered that the Michigan process butter law simply commands that process butter so called shall be plainly and prominently branded "Process Butter."

Armour & Co. have for a number of years been heavy shippers into Michigan, and after the enactment of the Michigan process butter law continued to ship process butter into the state and sell the same as butter, with no brand or distinctive mark whatever to show the true character of the product. In the recent prosecution against Armour & Co. the testimony of the Department's chemists was corroborated in every detail by Dr. Albert B. Prescott, for more than thirty-five years at the head of the Chemical Department of the University of Michigan, he testifying positively and without reserve that the sample submitted to him was process butter, and that there could be no question concerning the chemical method used in its identification. More than that, the method had been submitted to Dr. H. W. Wiley, chief chemist of the U. S. Department of Agriculture, and to many other leading chemists of the United States, and they all pronounced this method one of absolute certainty and reliability. It will be borne in mind that until this method of chemical analysis was worked out by W. H. Hess and R. E. Doolittle no certain method was known to chemists for the identification of process butter.

Opposed to these proofs was the testimony of Armour & Co.'s hired chemists to the effect that the analysis used by the witnesses for the prosecution was an entirely new one; that they had never tried it, and could not therefore say positively whether it was a reliable means of identification or not, but they naturally were suspicious of the method and would not concede its genuineness until a long line of experiments and proofs had been made.

The above in substance is the testimony for the prosecution and defense in the process butter case against Armour & Co. The finding of the police justice "No cause of action" is sufficient comment; and his further finding that process butter was not in itself injurious to health and therefore not subject to regulations by a state under its police power, is a sufficient commentary upon the difficulties of enforcing a food law.

The research and subsequent discovery of this method of analysis of process butter reflects credit upon the Department's chemist, as many letters from the Dairy and Food Commissioners of other states and from national authority attest.

The interests of the state were most energetically and intelligently handled by the prosecuting attorney of Jackson county, Mr. Charles H. Smith, and his assistant, Mr. Charles E. Townsend. Never has the Department been more loyally supported and its cases conducted with greater ability, determination and care than in the case referred to.

Not until the Michigan Supreme Court shall pass upon this law and declare it void will the process butter question be settled in this state. We warn all manufacturers and dealers in process butter that its regulation by statute is a valid one until declared otherwise by more competent authority than a police justice, and that prosecutions will follow its violation in every instance where detected.

METHOD FOR THE DETECTION OF "PROCESS" OR "RENOVATED" BUTTER.

BY W. H. HESS AND R. E. DOOLITTLE,
Department Chemists.

"Process" butter commonly called "renovated" butter is a product prepared about as follows: Unsalable dairy or creamery butter, bought at a low price in the spring and summer, is melted and the butter fat drawn off. The curd originally present in the butter is rejected, thereby removing a large part of the rancidity if any be present. Milk is now added to this butter fat and stirred in so as to be evenly mixed throughout when the whole mass is cooled quickly, so as to prevent the separation of the "butter oil." This milk soon sours, the casein therein is coagulated, and thus there is provided an artificial curd which contains a percentage of nitrogen about the same as that of the curd of real dairy butter. The butter fat of this renovated butter does not materially differ from ordinary butter fat in any of its chemical properties.

It is evident, therefore, that for the detection of process butter, we must depend on the difference between the curd of genuine butter made from cream, and the artificial curd supplied in "process" butter by the addition of milk. There are proteids in milk which are insoluble in water, and therefore separate out and occur with the cream. The insolubility of these proteids was more fully brought out by S. W. Babcock in his work upon the proteids of cream (1888). These proteids, insoluble in water, pass into the butter and form the main part of the substance commonly known as the curd. It is a cohesive, gelatinous mass and notably non-granular. The curd of "process" butter, however, consists chiefly of coagulated casein. This is a flaky, granular, non-cohesive mass, and does not, therefore, resemble the proteids of cream in physical properties. The following method of analysis has proven satisfactory:

TEST FOR BUTTER FAT.

The purified fat is examined with the butyro-refractometer. At 25 degrees C., the reading seldom varies from 51° in the case of "process" butter, and hence does not differ from butter fat in this respect. This reading is taken to assure the operator that the fat at hand is butter fat and not a substitute as oleomargarine. A determination of the volatile fat acids will serve as well.

TESTS OF THE CURD.

After having proved that the fat is butter fat, an examination of the curd is made. The first test that is made is one which depends on the cohesive properties of the curd of pure butter. If a portion of the butter sample, about 1 gram, is placed in a convenient container—a spoon answers the purpose admirably—and heated over a free flame, the mass will, in case the sample is pure butter, assume a foamy appearance which is very striking. In case the sample is "process" butter, no foaming is produced, but the mass merely bumps and sputters like hot grease containing water. Oleomargarine behaves like "process" butter, but it has been excluded by previous tests.

APPEARANCE OF THE CURD.

A sample of the butter is melted in a beaker, the fat is decanted, and the curd is well washed with ether to remove the remnant of fat. The curd is poured out on a clean glass plate in a thin layer and allowed to dry. A sample of genuine butter is treated likewise. The physical appearance is then quite distinctive especially when a magnifier of 3 to 6 diameters is used for the examination. The curd from the true butter will have an amorphous, non-granular appearance, while the curd from "process" butter has a very coarse, curdy appearance. The one is the proteid of cream, the other is the proteid of milk; the one is a gelatinous, ropy mass, the other is a granular, easily divided substance.

Casein dissolves readily in acid or alkali; the curd of genuine butter dissolves only on prolonged treatment with these reagents.

IDENTIFICATION OF THE SOURCE OF THE CURD.

A convenient sample of the butter, 25 to 100 grams, is placed in a beaker and melted at 45° to 50° C. (It is worthy of note that "process" butter will not yield a clear liquid fat at the end of half an hour or even twenty-four to forty-eight hours, while genuine dairy or creamery butter yields a clear supernatant liquid as soon as melted). As much as possible of the fat is decanted, and the remaining portions, composed of curd, water, salt and the remnant of fat are thrown upon a moistened filter and the water is allowed to drain through. This water carries the soluble proteids as well as the salt. To this filtrate a few drops of acetic acid are added and then the solution is brought to a boil. In case the filtrate is from the curd of pure butter, only a slight milkiness is produced (absence of albumins), but in case the filtrate is from the curd of "process" butter, a flocculent, white precepitate of albumins is formed, a certain indication that the source of the curd is from milk. Other tests for the albumins may of course be used. If strong hydrochloric acid be added to the filtrate from the curd of "process" butter, a violet color is produced (Liebermann's test for albumin).

QUANTITATIVE EXAMINATION OF THE CURD.

If the artificial curd of "process" butter has been derived from milk, then the ratio of the percentage of casein to the percentage of albumins should be the same as that ratio is in milk, or about 9 parts of casein to 1 part of albumins. The ratio in the curd of "process" butter sold on the market, as actually found, was 8.6 parts casein to 1 part of albumins. The method of estimation is as follows: 50 grams of the butter are placed in a beaker and dissolved in ether to a clear solution. In case the sample is genuine butter, the curd is so finely divided that it remains in suspension in the ether and considerable time may be required for a clear solution. As much as possible of the ether solution of fat is decanted and the whole of the remainder transferred to a separatory funnel. The casein and water with the salt are then removed and the washing with ether is then repeated three or more times to remove all the fat from the curd. The casein is then filtered out, washed with water, and the nitrogen estimated by the Kjeldahl method. The filtrate from the curd is made slightly acid and then brought to a boil. The albumins are filtered out and estimated by the same method.

These tests serve to differentiate between genuine butter and "process" butter as it is now found on the market.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	62
Cases nolle prossed*.....	13

CASES DISPOSED OF.

Before Examining Magistrates, 30 {	Defendants bound over to trial courts....	26
	Defendants discharged on examination..	4
In Trial Courts.....29 {	Defendants convicted.....	27
	Defendants acquitted.....	2
Cases pending April 1, 1900.....		32

PROCEEDINGS HAD DURING THE MONTH OF MARCH, 1900.

Complaint was made on the 15th inst., in justice court of the city of Mt. Clemens against Martin Schaaf of Mt. Clemens, Mich., charged with having served oleomargarine without displaying the required sign. Case pending.

Complaint was made on the 15th inst., in justice court of the city of Mt. Clemens against Katherine S. Fletcher, of Mt. Clemens, Mich., charged with having served oleomargarine without displaying the required sign. Case pending.

Complaint was made on the 27th inst., in justice court of the city of Marshall against James B. Chapple, of Battle Creek, Mich., charged with having served oleomargarine without displaying the required sign. On the 30th inst., defendant waived examination and was bound over to the circuit court for the county of Calhoun for trial.

Complaint was made on the 27th inst., in justice court of the city of Marshall against Enoch Cumings, of Battle Creek, Mich., charged with having served oleomargarine without displaying the required sign. On the 30th inst., defendant waived examination and was bound over to the circuit court for the county of Calhoun for trial.

*Oleomargarine cases, Statute repealed.

Complaint was made on the 27th inst., in justice court of the city of Marshall against James Williams, of Battle Creek, Mich., charged with having served oleomargarine without displaying the required sign. Case pending.

Complaint was made on the 30th inst., in justice court of the city of Adrian against Henry C. Hisner, representing Chapman & Smith Co., of Chicago, Ill., charged with having sold adulterated molasses. Case pending.

Complaint was made on the 30th inst., in justice court of the city of Adrian against Robert Baldwin, representing The Paddock, Overmeyer Co., of Toledo, Ohio, charged with having sold adulterated molasses. Case pending.

Complaint was made on the 31st inst., in justice court of the township of Springwells against John Kosch, of Detroit Mich., charged with having sold oleomargarine as butter. Case pending.

The case pending in the police court of the city of Jackson against Rollin G. Phelps, representing Armour & Co., of Chicago, Ill., charged with having sold process butter without being labeled as such, came up for trial in said court on the 1st inst. Defendant was acquitted.

In the case pending in the circuit court for the county of Washtenaw against Albert Johnson, representing R. A. Bartley, of Toledo, Ohio, charged with having sold glucose mixture improperly labeled, the defendant on the 9th inst., entered a plea of guilty. A fine of \$25.00 was imposed by the court.

In the case pending in justice court of the village of Fremont against Irving W. Feightner, representing Durand & Casper Co., of Chicago, Ill., charged with having sold adulterated vinegar, the defendant on the 10th inst., entered a plea of guilty. A fine of \$50.00 was imposed by the court.

The case pending in the circuit court for the county of Berrien against William Chrest, of St. Joseph, Mich., charged with having served oleomargarine without displaying the required sign, came up for trial before Judge Coolidge and a jury in said court on the 29th inst. The case was concluded on the 30th inst., defendant being convicted. Court has not yet imposed sentence.

In the case pending in the circuit court for the county of Kalamazoo against Daniel D. Mitchell, of Kalamazoo, Mich., charged with having served oleomargarine without displaying the required sign, defendant on the 30th inst., entered a plea of guilty. Court has not yet imposed sentence.

INSPECTIONS.

The following places were visited during the month of March by the Department's inspection force:

Detroit, Springwells, Wyandotte, Ewart, Reed City, Luther, Leroy, Cadillac, Manton, Petoskey, Harbor Springs, Charlevoix, Bellaire, Central Lake, Fife Lake, Dundee, Milan, Maybee, Temperance, Yeagerville, Erie, Traverse City, Manistee, Ludington.

DAIRY INSPECTIONS.

REPORT OF DAIRIES INSPECTED DURING THE MONTH OF MARCH, 1900.

At Jackson:

J. Buchfink—Condition of cows, fair but rather dirty; feed, hay, corn, bran and buckwheat middlings; stables, fairly neat and clean, but part of floor very poor; yard, clean and dry; drainage from stable, poor; ventilation, good; water, well; uses an aerator.

E. A. Sager—Condition of cows, good and very clean; feed, cut fodder, hay, ground corn and oats, bran and gluten meal; yard, clean and dry; drainage, good; ventilation, good; water, well; uses lime as a disinfectant; uses an aerator; runs a wagon and sells to Wagman.

Frank Nichols—Condition of cows, good and clean; feed, corn stalks, hay, corn, bran, gluten meal, and quaker oat feed; stables, fairly neat and clean; nicely whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator.

J. H. Diesenroth—Condition of cows, fine, very clean; feed, ensilage, corn fodder, straw, bran, quaker oat feed and gluten meal; stables, very neat and clean; yard, clean and dry; ventilation, fair; water, well; milk room neat and clean; uses an aerator.

Fred Birkhard—Condition of cows, good, fairly clean; stables, clean and neat; ventilation, fair; water, city.

J. Lavery—Condition of cows, very good and clean; feed, ensilage, hay, gluten feed, buckwheat middlings and bran; stables in poor condition but warm, fairly clean, ceilings poor; yard, clean and dry; drainage

from stable, poor; ventilation, fair; water, well; milk house neat and clean; cement floor, uses an aerator.

H. P. Deering—Condition of cows, good and clean; feed, clover hay, cornstalks, bran and cornmeal; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, creek; sells milk to the M. C. railroad.

Connors & Bradford—Condition of cows, good and clean; feed, mixed hay, cornstalks, ground corn and oats, bran and gluten; stables, good; fairly neat and clean; some cobwebs on ceilings; yard, clean and dry; drainage good; ventilation, good; water, well; milk room neat and clean.

Hall & Co.—Condition of cows, good and clean; feed, cornstalks, hay, bran and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean; uses an aerator.

Byron Foote—Condition of cows, good and clean; feed, cornstalks, hay, bran and ground corn and oats; stables, fairly neat and clean; partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Chas. Salisbury.

Mrs. Emma Camp—Condition of cows, good and fairly clean; feed, ensilage, hay, bran and gluten meal; stables, fairly neat and clean; part of ceiling poor, floors not very good, partly whitewashed, some cobwebs on ceiling; yard, fairly clean and dry; drainage from stable, poor; ventilation, fair; water, well; milk room very neat and clean; has cement floor; uses an aerator.

Wm. Brandenburg—Condition of cows, good and fairly clean; feed, shredded fodder, hay, ground oats and barley and gluten meal; stables, fairly neat and clean; some cobwebs on ceiling; yard, clean and dry, drainage, good; ventilation, fair; water, well; sells milk to Mrs. Camp.

J. Butter—Condition of cows, good and fairly clean; feed, corn fodder, hay, bran and cornmeal; stables, fairly clean but lots of cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Mrs. Camp.

C. W. Ohlendorf—Condition of cows, good and fairly clean; feed, hay, millet, cornstalks, ground corn and oats; stables, fairly neat and clean; partly whitewashed; floor, poor; ceiling, poor; yard, clean and dry; drainage from stable, poor; ventilation, good; water, well; sells milk to Mrs. Camp.

Frank Stranth—Condition of cows, fairly good and clean; feed, hay, cornstalks, straw and a little ground feed; stables, fairly clean but ceilings very dirty and full of cobwebs; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Mrs. Camp.

George Robson—Condition of cows, good and clean; feed, cornstalks, clover hay, bran, gluten feed and cornmeal; stables, neat and clean, ceiling, fair; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Mrs. Camp.

Arthur Lavery—Condition of cows, good and clean; feed, ensilage, cut fodder, clover hay, bran and gluten feed; yard, clean and dry; stables, nicely whitewashed, clean and neat; ventilation, fair; water, well; sells milk to Mrs. Camp.

Benjamin Trumbull—Condition of cows, good and clean; feed, hay, cornstalks, gluten meal and shorts; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milks to Mrs. Camp.

M. B. Bradford—Condition of cows, good, fairly clean; feed, ensilage, hay, gluten meal and bran; stables, fairly neat and clean, partly whitewashed, ceilings dusty and full of cobwebs; yard, clean and dry; drainage, fair; ventilation, good; water, well; sells milk to Mrs. Camp.

E. Rhines—Condition of cows, good and fairly clean; feed, cornstalks, millet, hay, bran and ground corn and oats; stables, not in very good condition, but neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Mrs. Camp.

Walter Bailey—Condition of cows, clean and fairly good; stables, fairly good and clean, some cobwebs on ceiling; feed, hay, corn fodder, millet, bran, ground corn and oats; yard, fairly clean and dry; ventilation, good; water, well; sells milk to Mrs. Camp.

H. B. Snow—Condition of cows, good and fairly clean: feed, hay, cornstalks, millet, gluten and corn bran; stables in just fair condition, ceilings dusty and full of cobwebs; floor, poor; yard, clean and dry; drainage from stable, poor; ventilation, good; water, well; sells milk to Mrs. Camp.

G. W. Wheeler—Condition of cows, good and clean; feed, hay, cornstalks, ground corn and oats; stables, good, fairly neat and clean; some cobwebs and dust on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Mrs. Camp.

C. W. Harrington—Condition of cows, good and clean; feed, cornstalks, hay, bran, gluten meal and ground corn and oats; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Mrs. Camp.

F. B. Harrington—Condition of cows, good and clean; feed, hay, gluten feed, and bran; stables, fairly neat and clean; yard, clean and dry; ventilation, good; drainage, good; water, well; sells milk to Mrs. Camp.

George A. Sager—Condition of cows, good and fairly clean; feed, cut

stalks, hay, oats and pea hay, ground corn and oats; bran and gluten meal; stables, fairly neat and clean; neatly whitewashed, some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; milk house neat and clean; uses an aerator.

Geo. M. Lewis—Condition of cows, good and clean; feed, cornstalks, hay, gluten feed and bran; stables, fairly clean and neat; yard, clean and dry; drainage, good; ventilation, good; water, well; uses an aerator.

M. McLaughlin—Condition of cows, good and fairly clean; feed, cornstalks, hay, corn and beans, and bran; stables, neat and clean, partly whitewashed, some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to G. M. Lewis.

Chas. W. Mageham—Condition of cows, good and clean; feed, hay, cornstalks, gluten meal and bran; stables, good and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk house, neat and clean; uses an aerator.

Willis Perkin—Condition of cows, good and clean; feed, hay, cornstalks, gluten feed, bran and cornmeal; stables, fairly good and clean; yard, clean and dry; drainage, fair; ventilation, fair; water, well; uses an aerator.

H. M. Miller—Condition of cows, fairly good and clean; feed, cornstalks, gluten feed and oilmeal; stables, fairly good and clean; yard, fairly clean and dry; drainage, fair; ventilation, good; water, well.

Chas. Wiley—Condition of cows, good but very dirty; feed, hay, cornstalks, shorts and gluten feed; stables, fairly good but not very clean; yard, fair, drainage not very good; ventilation, good; water, well.

Marshall Johnson—Condition of cows, good and fairly clean; feed, hay, cornstalks, ground corn, gluten feed and bran; stables, fairly good and clean; yard, fair; drainage, fair; ventilation, good; water, well.

J. W. Moore—Condition of cows, good and fairly clean; feed, hay, cornmeal and bran; stables, fairly good and clean; yard, clean; drainage, fair; ventilation, fair; water, well.

C. E. Eberedd—Condition of cows, good and fairly clean; feed, hay, cornstalks; gluten meal and bran; stables, poor, and not very clean; yard, dirty, drainage, very poor; ventilation, fair; water, well; uses an aerator.

W. D. Higdon—Condition of cows, good and fairly clean; feed, hay, cornstalks, gluten feed, bran and some cornmeal; stables, poor, rather dirty; floors, bad; yard, dirty; drainage, poor; ventilation, fair; water, well; uses an aerator.

A. Thorp—Condition of cows, good and clean; feed, hay, cornstalks, gluten feed and corn bran; stables, good and clean, partly whitewashed;

yard, fairly clean; drainage, good; ventilation, fine; water, well; milk house, neat and clean; uses an aerator.

C. E. Thorp—Condition of cows, good and fairly clean; feed, millet, marsh hay, gluten feed and bran; stables, good, clean, and finely white-washed; yard, clean and dry; drainage, good; ventilation, good; water, well; uses an aerator.

H. F. Probert—Condition of cows, fine and very clean; feed, ensilage, corn meal, gluten meal, bran, hay and millet; stables, very neat and clean, cement floors and strictly up to date; yard, very clean and neat; ventilation, unusually good; water, well; milk room, very neat and clean, cement floor; uses an aerator.

Timmons Bros.—Condition of cows, clean and fairly good; feed, hay, cornstalks, ground corn and oats and beans; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

M. M. Dodge—Condition of cows, good and clean; feed, clover hay, cornstalks, gluten feed and bran; stables, very good, and light and neat; yard, clean and dry; drainage, good; water, well; milk house, neat and clean; uses an aerator.

Walter Purdy—Condition of cows, good and very clean; feed, hay, ground corn and oats, bran and brewery grain; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Holmes Simth—Condition of cows, good and clean; feed, hay cornstalks, ground corn and oats, oil meal and brewery grains; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

J. W. Moulton—Condition of cows, good and very clean; feed, hay, cornstalks, gluten feed, shorts and bran; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; uses an aerator.

Wm. Loud—Condition of cows, fine and clean; feed, hay, cut stalks, gluten feed and bran; stables, very neat and clean; nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk house, very neat and clean; uses an aerator.

Bryon Pulver—Condition of cows, good and clean; feed, hay, ground corn and oats, shorts and carrots; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

A. R. Hall & Son—Condition of cows, fine and fairly clean; feed, hay, millet, quaker oat feed, gluten feed and bran; stables, neat and clean and nicely whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well.

R. F. Crandall—Condition of cows, good and clean; feed, hay, cornstalks, shorts and bran; stables, good and fairly clean; yard, fairly clean and dry; drainage, good; ventilation, good; water, well; sells milk to Mary Pluff.

Mary Pluff—Condition of cows, good and clean; feed, hay, cornstalks, cornmeal and bran; stables, in poor condition but rather neat and clean; yard, clean and dry; drainage, good; water, well.

John Franklin—Condition of cows, good and very clean; feed, cornstalks, hay, gluten feed and bran; stables, neat and clean, partly white-washed; yard, clean and dry; drainage, good; ventilation, good; water, well.

Mrs. B. Wood—Condition of cows, fairly good, but rather dirty; feed, cornstalks, corn bran, gluten meal and bran; stables, fairly neat and clean, some dust and cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well.

M. F. Ayres—Condition of cows, good and fairly clean; feed, cornstalks, hay, corn bran and gluten meal; stables, fairly good but rather dirty, and ceiling dusty and full of cobwebs; yard, clean and dry; drainage, fair; ventilation, fair; water, well; sells milk to Palmer.

O. H. Kellogg—Condition of cows, good and clean; feed, hay, cornstalks and shorts; stables, fairly good and clean; yard, fairly clean and dry, drainage, fair; ventilation, fair; water, well; sells milk to Manchester.

E. C. Ives—Condition of cows, good and clean; feed, hay, cornstalks, and some grain; stables, fairly clean and neat; yard, fairly good and clean; drainage, good; ventilation, fair; water, well; sells milk to D. Manchester.

W. H. Miller—Condition of cows, good and fairly clean; feed, cornstalks, ground corn and oats and shorts; stables, fairly neat and clean; yard, clean; drainage, good; ventilation, good; water, well, sells milk to D. Manchester.

Will Blake—Condition of cows, good and clean; feed, hay, cornstalks, shorts and corn; stables, neat and clean, except some cobwebs on ceiling; condition of yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to F. Layton.

Frank Bennett Farm—**F. P. Williams Mgr.**—Conditions of cows, good and clean; feed, hay, cornstalks, gluten feed and bran; stables, good and clean, except some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to F. Layton.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., March 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of March 54 samples of food products have been examined, 16 being pure and 38 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Buckwheat flour.....	1	1	0
Butter.....	13	9	4
Cinnamon.....	5	1	4
Cloves.....	1	1	0
Extracts (flavoring).....	6	1	5
Ginger.....	1	0	1
Jelly and fruit butter.....	4	0	4
Molasses.....	2	0	2
Mustard (dry).....	2	1	1
Mustard (prepared).....	1	0	1
Pepper.....	7	1	6
Syrup.....	6	0	6
Vinegar.....	4	0	4
Wild cherry phosphate.....	1	1	0
Totals	54	16	38

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUTTER.

No. G-836. Sample of butter from Louis Riopelle, Commercial House, Wyandotte.
Oleomargarine; no sign displayed in room.

No. I-419. Sample of butter from James B. Chapple, Hotel Hamblin, Battle Creek.
Oleomargarine; no sign displayed in room.

No. I-420. Sample of butter from James Williams, Williams Hotel, Battle Creek.
Oleomargarine; no sign displayed in room.

No. I-424. Sample of butter from Enoch Cummings, Restaurant, Battle Creek.
Oleomargarine; no sign displayed in room.

CINNAMON.

No. K-136. Sample of cinnamon from C. C. Phillips, Bangor.
Sold (1899) by Kidd, Dater & Co., Benton Harbor.

Total ash.....	15.83 per cent.
Sand.....	11.33 " "
Ground cassia.....	---
Foreign woody matter.....	---

Contains foreign woody matter, and an excessive amount of sand.

No. K-141. Sample of cinnamon from J. C. Warner, Paw Paw.
Sold (1899) by Worden Grocer Co., Grand Rapids.

Ash.....	5.13 per cent.
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Microscopical examination shows presence of foreign starchy matter.

No. K-150. Sample of cinnamon (Brand "Silver Seal") from N. C. Hanson, Ludington.
Sold (1900) by Walsh, Lange & Co., Chicago, Ill.

Total ash.....	5.28 per cent.
Sand.....	1.65 " "

Microscopical examination shows presence of foreign starchy matter.

No. K-154. Sample of cinnamon (Brand "Michigan State") from F. W. Dunlap, Manistee.

Sold (1900) by W. J. Quan & Co., Chicago, Ill.

Total ash.....	9.79 per cent.
Sand.....	6.02 " "

Dirty sample of ground cassia containing excessive amounts of sand.

EXTRACTS (Flavoring).

No. A-369. Sample of vanilla (Brand "Crane's Best") from A. B. Berry, Adrian.
Sold (1899) by **R. A. Bartley, Toledo, Ohio.**

Producer, **The Crane Extract Co., Dayton, Ohio.**

Vanillin.....	0.136 per cent.
Coumarin.....	None.
Vanilla resin.....	"
Organic acids, gums, etc.....	"
Color.....	Artificial.

An artificial preparation.

No. G-835. Sample of "Dieter's Double Strength Vanilla" from Turski Bros., Wyandotte.

Sold (1900) by **N. Wohlfelder & Co., Detroit.**

Producer, **The J. P. Dieter Co., Chicago, Ill.**

Vanillin.....	0.028 per cent.
Coumarin.....	0.011 " "
Vanilla resin.....	Present.
Organic acids, gums, etc.....	"

Adulterated with coumarin.

No. K-147. Sample of "Ideal Flavoring Extract Vanilla" from Treat Bros., Buchanan.

Sold (1899) by **Riddell Grocery Co., South Bend, Ind.**

Producer, **Riddell Grocery Co., South Bend, Ind.**

Vanillin.....	Trace.
Coumarin.....	0.043 per cent.
Vanilla resin.....	Trace.
Organic acids, gums, etc.....	Present.
Color.....	Artificial.

Adulterated with coumarin and artificially colored.

No. K-152. Sample of "Silver Seal Flavoring Extract of Vanilla" from H. Jenson, Ludington.

Sold (1900) by **Walsh, Lange & Co., Chicago, Ill.**

Producer, **Walsh, Lange & Co., Chicago, Ill.**

Vanillin.....	0.059 per cent.
Coumarin.....	0.119 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	"
Color.....	Artificial.

An artificial preparation.

No. K-159. Sample of "Capital Extract of Vanilla with Tonka" from Sam Pettingill, Petoskey.

Sold (1899) by **Northrop, Robertson & Carrier, Lansing.**

Producer, **Capital Extract Co., Lansing.**

Vanillin.....	0.065 per cent.
Coumarin.....	0.189 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	"
Color.....	Artificial.

An artificial preparation.

GINGER.

No. K-155. Sample of ginger, (Brand "Silver Seal") from F. W. Dunlap, Manistee.
Sold (1899) by Walsh, Lange & Co., Chicago, Ill.

Ash.....	3.69 per cent.
Ginger.....	-----
Turmeric.....	-----

Colored with turmeric.

JELLY AND FRUIT BUTTER.

No. A-368. Sample of "Plum Flav. Jelly" from A. B. Berry & Co., Adrian.
Sold (1899) by R. A. Bartley, Toledo, Ohio.
Producer, Keystone Syrup Refining Co., Peoria, Ill.

Water.....	39.74 per cent.
Ash.....	0.68 " "
Reducing sugar before inversion.....	33.11 " "
Reducing sugar after inversion.....	31.44 " "
Polarization before inversion.....	+134. degrees.
Polarization after inversion.....	+134. "
Starch paste.....	Present.
Color.....	Artificial.

Imitation fruit jelly artificially colored.

No. A-372. Sample of "Compound Apple Butter" from F. A. Lehr, Adrian.
Sold (1900) by R. A. Bartley, Toledo, Ohio.

Water.....	39.32 per cent.
Ash.....	0.52 " "
Reducing sugar before inversion.....	30.36 " "
Reducing sugar after inversion.....	30.00 " "
Polarization before inversion.....	+112. degrees.
Polarization after inversion.....	+111. "
Fruit, spices, etc.....	-----

Imitation fruit butter.

No. A-375. Sample of "Quince Jelly" from Geo. F. Straub, Adrian.
Sold (1900) by The Church McConnell Co., Toledo, Ohio.
Producer Frank Vogel Co., Allegheny, Pa.

Water.....	30.52 per cent.
Ash.....	0.31 " "
Reducing sugar before inversion.....	42.68 " "
Reducing sugar after inversion.....	64.10 " "
Polarization before inversion.....	+48. degrees.
Polarization after inversion.....	+17.6. "

Imitation fruit jelly.

No. A-377. Sample of grape jelly (Brand "Champion") from Romig & Berg, Dundee.
Sold (1900) by The Praddock & Overmeyer Co., Toledo, Ohio.
Producer, Champion Syrup Refining Co., Indianapolis, Ind.

Water.....	30.32 per cent.
Ash.....	0.55 " "
Reducing sugar before inversion.....	32.05 " "
Reducing sugar after inversion.....	32.98 " "
Polarization before inversion.....	+136. degrees.
Polarization after inversion.....	+132. "
Starch paste.....	Present.
Color and flavor.....	Artificial.

Imitation fruit jelly artificially colored.

MOLASSES.

No. A-370. Sample of molasses (Brand "Cypress O. K.") from J. A. Cushwa, Hudson.
Sold (1899) by Chapman & Smith Co., Chicago, Ill.

Water	27.17	per cent.
Ash	1.61	" "
Reducing sugar before inversion	35.56	" "
Reducing sugar after inversion	47.17	" "
Polarization before inversion	+106.	degrees.
Polarization after inversion	+81.4.	"

Adulterated with glucose.

No. A-373. Sample of molasses (Brand "Dove") from C. E. Williamson, Tecumseh.
Sold (1900) by The Paddock Overmeyer Co., Toledo, Ohio.
Producer, The M. H. Alexander Co., New Orleans.

Water	26.09	per cent.
Ash	2.85	" "
Reducing sugar before inversion	30.38	" "
Reducing sugar after inversion	48.08	" "
Polarization before inversion	+90.	degrees.
Polarization after inversion	+59.4.	"

A mixture of cane syrup and glucose.

MUSTARD (Dry).

No. K-139. Sample of mustard from A. B. Dean, Hartford.
Sold (1899) by Edy & Edy St. Louis Mo.

Ash	4.89	per cent.
Wheat starch	28.12	" "
Mustard	---	---
Turmeric	---	---

Adulterated with wheat starch and colored with turmeric.

MUSTARD (Prepared).

No. K-130. Sample of prepared mustard (Brand "Banquet Table Mustard") from D. Kampenga, Muskegon.
Sold (1899) by Geo. Hume & Co., Muskegon.
Producer, Glaser, Kohn & Co., Chicago, Ill.

Solids	17.64	per cent.
Ash	4.24	" "
Mustard	---	---
Vinegar	---	---
Spices and turmeric	---	---

Not properly labeled.

PEPPER.

No. K-138. Sample of black pepper from A. B. Dean, Hartford.

Ash	3.84	per cent.
Starch	45.00	" "

Microscopical examination shows presence of wheat.

No. K-146. Sample of "Standard Ground Pepper" from G. E. Smith & Co., Buchanan.
Sold (1900) by Riddell Grocery Co., South Bend, Ind.

Ash	5.43	per cent.
Starch	43.94	" "

Microscopical examination shows presence of wheat and rice.

No. K-148. Sample of "Pure pepper" from Geo. B. McOmber, Decatur.
Sold (1899) by Riddell Grocery Co., South Bend, Ind.

Ash.....	5.40 per cent.
Starch.....	44.00 " "

Microscopical examination shows presence of wheat and rice.

No. K-149. Sample of "Royal Mills" pepper from Mrs. E. Winmans, Ludington.
Sold (1899) by Roundy, Peckham & Co., Milwaukee, Wis.

Ash.....	5.37 per cent.
Starch.....	40.00 " "

Microscopical examination shows presence of foreign starchy matter.

No. K-151. Sample of "Silver Seal" pepper from H. Jenson, Ludington.
Sold (1900) by Walsh, Lange & Co., Chicago, Ill.

Ash.....	4.91 per cent.
Starch.....	37.00 " "

Microscopical examination shows presence of wheat and rice.

No. K-156. Sample of black pepper from Mrs. Flora Moguin, East Lake.
Sold (1895) by Newman & Son, Fairport, N. Y.

Ash.....	4.01 per cent.
Starch.....	38.00 " "

Microscopical examination shows presence of wheat and rice.

SYRUP.

No. A-366. Sample of "Purity Drips Syrup" from H. M. Collins, Blissfield.
Sold (1899) by Berdan & Co., Toledo, Ohio.

Water.....	18.88 per cent.
Ash.....	0.38 " "
Reducing sugar before inversion.....	38.46 " "
Reducing sugar after inversion.....	39.06 " "
Polarization before inversion.....	+160. degrees.
Polarization after inversion.....	+154. " "

Glucose mixture.

No. A-367. Sample of syrup "Honey Drips" from John Lenniville, Blissfield.
Sold by R. A. Bartley, Toledo, Ohio.

Water.....	21.60 per cent.
Ash.....	1.02 " "
Reducing sugar before inversion.....	35.56 " "
Reducing sugar after inversion.....	39.06 " "
Polarization before inversion.....	+152. degrees.
Polarization after inversion.....	+145.2. " "

Glucose mixture.

No. A-371. Sample of syrup "Golden Sheaf" from L. W. Galloway, Hudson.
Sold (1899) by Dow & Snell Co., Toledo, Ohio.

Water.....	25.39 per cent.
Ash.....	0.90 " "
Reducing sugar before inversion.....	35.03 " "
Reducing sugar after inversion.....	39.06 " "
Polarization before inversion.....	+148. degrees.
Polarization after inversion.....	+137.5 degrees.

Glucose mixture.

No. A-374. Sample of syrup "Golden Sheaf," from John Martin, Ida.

Sold (1899) by Dow & Snell Co., Toledo, Ohio.

Water	25.39	per cent.
Ash	0.90	" "
Reducing sugar before inversion	35.03	" "
Reducing sugar after inversion	39.06	" "
Polarization before inversion	+148.	degrees.
Polarization after inversion	+137.5.	"

Glucose mixture.

No. A-376. Sample of syrup "Morning Glory Drips," from Carter & Scott, Dundee.

Sold (1900) by The Paddock Overmeyer Co., Toledo, Ohio.

Water	26.32	per cent.
Ash	0.92	" "
Reducing sugar before inversion	33.11	" "
Reducing sugar after inversion	38.26	" "
Polarization before inversion	+156.	degrees.
Polarization after inversion	+147.4.	"

Glucose mixture.

No. K-158. Sample of syrup "Crescent Drips" from J. G. Loeding, Traverse City.

Sold (1899) by Kersting & Apel Co., Milwaukee, Wis.

Water	15.00	per cent.
Ash	0.89	" "
Reducing sugar before inversion	37.50	" "
Reducing sugar after inversion	44.00	" "
Polarization before inversion	+148.	degrees.
Polarization after inversion	+136.4.	"

Glucose mixture.

VINEGAR.

No. A-364. Sample of cider vinegar, "Gold Medal," from C. Witt, Ida.

Sold (1899) by R. A Bartley, Toledo, Ohio.

Specific gravity	1.0176.	
Acid as acetic	4.08	per cent.
Total solids	3.30	" "
Ash	0.46	" "
Organic acids other than acetic	None.	

Not cider vinegar.

No. C-404. Sample of cider vinegar from original package at Grand Rapids.

Sold by Michigan Spice Co., Grand Rapids.

Specific gravity	1.0050	
Acid as acetic	3.09	per cent.
Total solids	0.20	" "
Ash	0.02	" "

Distilled vinegar below the standard in acid strength.

No. K-145. Sample of "Double Cider Vinegar," from Gillette & Hatfield, Niles.

Sold (1899) by M. Wolff & Sons, Chicago, Ill.

Producer, M. Wolff & Sons, Chicago, Ill.

Specific gravity	1.0079.	
Acid as acetic	4.89	per cent.
Total solids	0.45	" "
Ash	0.03	" "
Organic acids other than acetic	None.	
Color	Artificial.	

Distilled vinegar artificially colored.

No. K-153. Sample of cider vinegar from A. J. Krueger, Manistee.
Sold (1899) by Smith Thorndike & Brown, Co., Milwaukee, Wis.
Producer, Michigan Cider Co., Chicago, Ill.

Specific gravity.....	1.0133
Acid as acetic.....	3.28 per cent.
Total solids.....	3.01 " "
Ash.....	0.12 " "

Below the standard in acid strength and ash.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{4}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

USE OF PRESERVATIVES IN MILK.

The attention of all dealers in milk is called to the provisions of Act No. 106 of the public acts of 1899, prohibiting the use of preservatives in milk or cream.

Producers and dealers are warned that this statute will be strictly enforced.

REGISTRATION OF CHEESE FACTORIES AND CREAMERIES.

We again call the attention of all proprietors of cheese factories, creameries and butter factories, where milk or cream is purchased of or contributed by three or more persons, to the provisions of the statute requiring them to register the name and location of such factory and the name of its owner or manager with this Department on or before the first day of April, or before engaging in business after that date.

Blanks upon which to make such registration will be furnished on application at this office.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	63
Cases nolle prossed*.....	13

CASES DISPOSED OF.

Before Examining Magistrates, 44	{	Defendants bound over to trial courts...	37
		Defendants discharged on examination..	7
In Trial Courts.....36	{	Defendants convicted.....	34
		Defendants acquitted.....	2
Cases pending May 1, 1900			23

PROCEEDINGS HAD DURING THE MONTH OF APRIL, 1900.

Complaint was made on the 6th inst., in justice court of the village of Three Rivers, against Charles Fisher, of Three Rivers, Mich., charged with having served oleomargarine without displaying the required sign. The examination in said case was held on the 27th inst. Defendant was bound over to the circuit court for the county of St. Joseph for trial.

The examination in the case pending in justice court of the township of Springwells, against John Kosch, of Detroit, Mich., charged with having sold oleomargarine as butter, was held on the 5th inst. Defendant was bound over to the circuit court for the county of Wayne for trial.

In the case pending in the circuit court for the county of Macomb, against Martin Schaaf, of Mt. Clemens, Mich., charged with having served oleomargarine without displaying the required sign, defendant on being arraigned in said court on the 13th inst., entered a plea of guilty. A fine of \$50 was imposed by the court.

In the case pending in the circuit court for the county of Macomb, against Katherine Fletcher, of Mt. Clemens, Mich., charged with having served oleomargarine without having displayed the required sign, defendant on being arraigned in said court on the 13th inst., entered a plea of guilty. A fine of \$50 was imposed by the court.

*Oleomargarine cases, Statute repealed.

In the cases pending in the police court of the city of Detroit, in which the defendants, hotel and restaurant keepers of the city of Detroit, were charged with having served oleomargarine without having displayed the required sign, the court on the 16th inst. bound the following defendants over to the recorder's court of the city of Detroit for trial: Thomas Swan, Henry J. Boerth, Charles Heinicke, Francis A. Merritt, Allen P. Mason, Frank McGough, Jacob Bastendorf, Fred Metzger, Frank A. Puddefoot.

The cases against Thomas Harrison, James T. Brady and John C. Beutler were dismissed by the police justice.

In the case pending in the recorder's court of the city of Detroit against Edwin N. Lightner, of Detroit, Mich., charged with having sold adulterated extract of vanilla, defendant on being arraigned in said court on the 21st inst., entered a plea of guilty. The court suspended sentence.

In the case pending in the circuit court for the county of Muskegon, against John Skillman, representing Reid, Murdock & Co., of Chicago, Ill., charged with having sold adulterated extract of vanilla and tonka, defendant on being arraigned in said court on the 23d inst., entered a plea of guilty. A fine of \$25 was imposed by the court.

In the case pending in the circuit court for the county of Muskegon against Charles H. Camp, representing W. J. Quan & Co., of Chicago, Ill., charged with having sold glucose mixture improperly labeled, defendant on being arraigned in said court on the 23d inst., entered a plea of guilty. A fine of \$25 was imposed by the court.

In the case pending in the circuit court for the county of Lenawee against Henry C. Hisner, representing Chapman & Smith Co., of Chicago, Ill., charged with having sold adulterated molasses, defendant on being arraigned in said court on the 28th inst., entered a plea of guilty. A fine of \$25 and \$20 costs was imposed by the court.

In the case pending in the circuit court for the county of Lenawee against Robert Baldwin, representing Paddock-Overmeyer Co., of Toledo, Ohio, charged with having sold adulterated molasses, defendant on being arraigned in said court on the 28th inst., entered a plea of guilty. A fine of \$25 and \$20 costs was imposed by the court.

INSPECTIONS.

The following places were visited during the month of April by the department's inspection force:

Stanton, Edmore, Lake View, Greenville, Belding, Detroit, Jackson, Spring Arbor, Grand Rapids.

DAIRY INSPECTION.

REPORT OF DAIRIES INSPECTED DURING THE MONTH OF APRIL 1900.

At Adrian:

J. G. Engle—Condition of cows, fairly good and clean; feed, hay, bran and shorts; stables, neat and clean; yard, fairly dry and clean; drainage, good, ventilation, good, water, well; sells milk to John Lofberg.

Frank L. Hough—Condition of cows, good and clean; feed, hay, oats, bran, straw and corn meal; stables, fairly neat and clean; yard, clean and neat; drainage, good; water, river and spring; ventilation, good; sells milk to Ethridge.

W. H. & N. J. Baldwin—Condition of cows, good and clean; feed, ensilage, stalks, meal and bran; stables, very neat and clean, nicely white-washed; yard, clean and dry; drainage, good; ventilation, good; water, spring; uses an aerator.

T. S. Tayer—Condition of cows, very good and very clean; feed, hay, shredded stalks, bran, corn meal and linseed meal; stables, neat and clean; yard, clean and dry; drainage, good; water, well; uses an aerator.

J. R. Northrup—Condition of cows, good and clean; feed, hay, corn stalks and ground corn and oats; stables, neat and clean except lots of cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to H. L. Church.

F. D. & L. A. Teachout—Condition of cows, good and very clean; feed, ensilage, shredded fodder, corn and bran; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; uses and aerator.

L. E. Older—Condition of cows, good and clean; feed, ensilage, hay and bran; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, river and spring.

J. B. Basselin—Condition of cows, good and very clean; feed, clover hay, ground corn and oats; stables, fairly neat and clean except some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, creek.

Chas. Kohler—Condition of cows, good and fairly clean; feed, ensilage, cut stalks, hay and bran; stables, fairly neat and clean, ceilings poor and full of dust and cobwebs; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Fred Schneider.

J. L. Schneider—Condition of cows, good and fairly clean; feed, hay, corn stalks, ground corn and oats and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Fred Schneider.

D. C. Deane—Condition of cows, very good and clean; feed, ensilage, hay, cut stalks, cotton seed meal, bran, barley sprouts and corn meal; stables, very neat and clean, being nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

James Helme—Condition of cows, good and clean; feed, ensilage, cut fodder, bran, oil meal, hay, cotton seed meal and malt sprouts; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, city; sells cream to D. C. Dean.

I. E. Dawson—Condition of cows, good and clean; feed, cut fodder, ground corn and oats and bran; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring.

N. A. S. Hamilton—Condition of cows, good and fairly clean; feed, hay, cut stalks, corn meal, bran and shorts; stables, fairly neat and clean; yard, clean and fairly dry; drainage, good; ventilation, fair; water, well.

J. A. Townsend and Son—Condition of cows, good and fairly clean; feed, hay, bran and sugar beets; stables, fairly neat and clean, ceiling poor and full of dust and cobwebs; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to W. H. Townsend.

H. S. Hoag—Condition of cows, very good and clean; feed, cut stalks, ground corn and oats, beets and bran; stables, neat and clean except some cobwebs on the ceiling; yard, very clean and dry; drainage, good; ventilation, good; water, well; sells milk to Henry Losee.

At Hudson:

A. L. and Fred Osborne—Condition of cows, good and clean; feed, mixed hay, corn stalks and ground corn and oats; stables, fairly neat and clean, ceilings, poor; yard fairly clean and dry; drainage, good; ventilation, good; water, spring.

M. Burt—Cows, good and fairly clean; feed, hay and ground corn and

oats; stables, neat and clean except ceilings, which were full of dust and cob-webs; yard, very clean and dry; drainage, good; water, well; uses an aerator.

B. S. Palmer—Condition of cows, good and very clean; feed, hay, corn stalks, ground corn and oats, shorts and bran; stables very neat and clean, having good cement floors; yard, dry and fairly clean; drainage, good; ventilation, good; water, well.

At Waldron:

F. R. Coman—Condition of cows, good and clean; feed, hay, stalks and ground corn and oats; stables, neat and clean; yard, fairly clean and dry; drainage, fair; ventilation, good; water, well.

At Hillsdale:

Herbert Decker—Condition of cows, very good and clean; feed, clover hay, corn meal and bran; stables, very neat and clean; yard, rather wet and dirty; drainage, fair; ventilation, good; water, well.

C. H. Morgan—Condition of cows, good and clean; feed, hay, bran and corn meal; stables fairly good and clean, some dust and cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well; sells to G. G. Twomley.

C. T. Van Aken—Condition of cows, good and clean; feed, hay, bran and ground corn and oats; stables, neat and clean except a little dust and some cobwebs on ceiling; yard, very clean and dry; drainage, good; ventilation, good; water, well; sells milk to Arthur Borrows.

P. F. Ward—Condition of cows, good and very clean; feed, ensilage, corn stalks, hay, ground corn and oats and bran; stables, not very clean, ceilings dusty and full of cobwebs; yard, rather wet and dirty; drainage, fair; ventilation, good; water, well; sells milk to E. E. Adams and to W. E. Lord.

Nelson Wolcott—Condition of cows, good and clean; feed, hay, corn meal and bran; stables, fairly neat and clean, some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, spring brook; sells milk to Arthur Borrows.

Eli R. Rodgers—Condition of cows, good and very clean; feed, hay, bran and corn meal; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring; sells milk to Herbert Decker.

At Jonesville:

Wm. Fogg—Condition of cows, fairly good; feed, hay, corn meal and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation good; water, well.

A. C. Saunders—Condition of cows, good and clean; feed, hay, bran and corn meal; stables, neat and clean; ventilation, good; water, well and creek; sells milk to Geo. Smith.

H. J. Miller—Condition of cows, good and very clean; feed, hay, corn meal and bran; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to I. O. Clarke.

A. H. Dudley—Condition of cows, good and very clean; feed, hay, corn meal and bran; stables, neat and clean except some dust and cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to I. O. Clarke.

D. W. Cary—Condition of cows, fairly good and clean; feed, hay, stalks, corn meal and bran; stables, fairly clean and neat, some dust and cobwebs on ceilings; yard, clean and dry; drainage, good; ventilation, fair; water, well and creek; sells milk to Geo. Smith.

Dunphy and Mayberry—Condition of cows, good and clean; feed, hay, pasture and ground corn and oats; stables, very neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., April 30, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of April 25 samples of food products have been examined, 13 being pure and 12 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Beans	1	1	0
Buckwheat flour	1	0	1
Butter	4	3	1
Extracts (flavoring)	4	0	4
Ginger	1	1	0
Honey	1	1	0
Jelly	2	0	2
Mustard (dry)	1	0	1
Peas	1	1	0
Pepper	6	3	3
Rice	1	1	0
Sugar	1	1	0
Wine	1	1	0
Totals	25	13	12

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUCKWHEAT FLOUR.

No. K-166. Sample of "Prepared Buckwheat" from D. C. Harter, Reed City.
 Sold (1900) by John A. Tolman Co., Chicago, Ill.
 Producer, John A. Tolman Co., Chicago, Ill.

Buckwheat flour, about.....	85.00	per cent.
Wheat flour, about.....	15.00	" "

Adulterated with wheat flour.

BUTTER.

No. G-839. Sample of butter from consumer, Springwells.
 Sold (1900) by John Kosch, Detroit.
 Oleomargarine.

EXTRACTS (Flavoring).

No. G-839. Sample of "Extract of Vanilla and Tonka" from John P. Marshick, Springwells.
 Sold (1899) by Schorndorfer & Eberhard, Cleveland, Ohio.
 Producer, Schorndorfer & Eberhard, Cleveland, Ohio.

Vanillin.....	0.006	per cent.
Coumarin.....	0.014	" "
Vanilla resin.....	Trace	"
Organic acids, gums, etc.....	Present.	"
Color.....	Artificial.	"

Artificially colored.

No. K-167. Sample of "Vanilla and Tonka" from S. Schack, Reed City.
 Sold (1900) by Ball, Barnhart, Putnam Co., Grand Rapids.

Vanillin.....	None.	
Coumarin.....	0.048	per cent.
Vanilla resin.....	None.	"
Organic acids, gums, etc.....	Present.	"
Color.....	Artificial.	"

Extract of tonka artificially colored.

No. K-168. Sample of "Extract of Vanilla and Tonka" from Jos. Anderson, Muskegon.
 Sold (1899) by Phelps, Brace & Co., Detroit.
 Producer, Huron Mfg. Co., Detroit.

Vanillin.....	0.019	per cent.
Coumarin.....	0.039	" "
Vanilla resin.....	Trace.	"
Organic acids, gums, etc.....	Present.	"
Color.....	Artificial.	"

Artificially colored.

No. K-170. Sample of "Concentrated Extract of Strawberry," from The Malcomson Tea Co., Benton Harbor.

Sold (1900) by John M. Malcomson, Chicago, Ill.

Producer, John M. Malcomson, Chicago, Ill.

Solid extract.....	3.66 per cent.
Glycerine.....	.....
Compound ethers.....	.....
Alcohol and water.....	.....
Coloring matter.....	.....

An artificial preparation.

JELLY.

No. G-844. Sample of Fruit Jelly from Frank Baade, Detroit.

Sold (1900) by Thos. H. Johnson, Detroit.

Producer, Logan, Johnson & Co., Boston, Mass.

Water.....	34.95 per cent.
Ash.....	0.57 " "
Reducing sugar before inversion.....	34.29 " "
Reducing sugar after inversion.....	34.05 " "
Polarization before inversion.....	+120. degrees.
Polarization after inversion.....	+112.2 "
Starch paste.....	Present.
Color and flavor.....	Artificial.

Imitation fruit jelly artificially colored.

No. K-164. Sample of "Red Currant Jelly" from Robert Johnson, Cadillac.

Sold (1899) by Corbin, Sons & Co., Chicago, Ill.

Producer, Wm. R. Maueirre, Chicago, Ill.

Water.....	35.90 per cent.
Ash.....	0.54 " "
Reducing sugar before inversion.....	38.40 " "
Reducing sugar after inversion.....	39.06 " "
Polarization before inversion.....	+94. degrees.
Polarization after inversion.....	+92. "
Starch paste.....	Present.
Color and flavor.....	Artificial.

Imitation fruit jelly artificially colored.

MUSTARD (Dry).

No. K-169. Sample of mustard from The Malcomson Tea Co., Benton Harbor.

Sold (1900) by John M. Malcomson, Chicago, Ill.

Ash.....	3.87 per cent.
Corn starch.....	49.34 " "
Mustard.....	.....
Turmeric.....	.....

Adulterated with corn starch and turmeric.

PEPPER.

No. G-837. Sample of pepper from David H. Marsh, Detroit.

Sold (1900) by M. N. Rowley, Detroit.

Total ash.....	7.34 per cent.
Sand.....	2.44 " "
Starch.....	38.65 " "

Microscopical examination shows presence of foreign starchy matter.

No. G-843. Sample of pepper from Frank Baade, Detroit.
Sold (1899) by Adelphi Coffee Mills, New York City.
Producer, Adelphi Coffee Mills, New York City.

Total ash.....	7.62 per cent.
Sand.....	1.45 " "
Starch.....	33.09 " "

Microscopical examination shows presence of wheat and foreign hulls.

No. K-171. Sample of black pepper from The Malcomson Tea Co., Benton Harbor..
Sold (1900) by John M. Malcomson, Chicago, Ill.

Ash.....	5.01 per cent.
Starch.....	40.18 " "

Microscopical examination shows presence of rice and wheat.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flower, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

LANSING, MICHIGAN
ROBERT SMITH PRINTING CO., STATE PRINTERS AND BINDERS
1900

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING.

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STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

CIDER VINEGAR: ITS SOLIDS AND ASH.

BY R. E. DOOLITTLE AND W. H. HESS, DEPARTMENT CHEMISTS.

During the past few years the question of vinegar adulteration has received considerable attention from food chemists. Heretofore the sophistication has consisted almost entirely of the sale of colored distilled vinegar for pure fermented apple juice. As distilled vinegar contains little or no solids or ash this fraud was easily detected by very simple determinations. During the year 1899, however, there appeared for sale on the markets of this state, vinegar containing the necessary amount of solids and ash required by the statute for cider vinegar; but on ordinary analysis of this the solids and ash did not have the usual appearance of solids and ash of vinegar from pure apple juice. It was to ascertain the character of these vinegars that the investigation of the solids and ash of cider vinegar was made.

THE SOLIDS.

The solids of pure cider vinegar consist of glycerol, albuminous substances, gums, malic and other organic acids, and mineral matter. The solids of pure cider vinegar give no rotation with the polariscope and little or no reducing action on Fehling solution after the customary clarification with lead acetate. Pure cider vinegar gives with lead acetate a heavy flaky, light reddish brown-colored precipitate, which carries down with it all the coloring-matter leaving the solution above clear and nearly colorless. For analysis of solids 1000 cc. of pure cider vinegar was evaporated to a thick syrup on a water-bath and this residue taken up

several times with distilled water and the water evaporated off to remove acetic acid. The suspected vinegars were treated in the same manner. The appearance of the solids on evaporation should be noted. Pure cider vinegar solids have a pleasant baked apple odor and are light and foamy in appearance. The spurious vinegars gave solids like molasses in appearance and of sharp acid odor. These residues gave the following results on analysis:

	Pure cider vinegar solids. Per cent.	Apple pomace vinegar solids. Per cent.	Suspected vinegar (1). Per cent.	Suspected vinegar (2). Per cent.	Boiled cider. Per cent.
Reducing sugar before inversion.....	0 to 14	0	42.88	56.82	61.12
" " after " 	0 to 10	0	33.36	57.04	66.45
Polarization before inversion.....	0	0	+40.7°	-31.14°	-17.9°
" " after " 	0	0	+38.8°	-24.25°	-25.0°

THE ASH, OR MINERAL MATTER.

The ash, or mineral matter, of pure cider vinegar consist principally of potash with small amounts of sulphuric anhydride, phosphoric acid, alumina, lime, magnesia, etc. The total amount should not be less than 0.25 per cent. For analysis, 100 cc. of the vinegar are taken for the determination of the total solids and ash in the usual way. The ash is dissolved in dilute hydrochloric acid and quantitative analysis made by the usual method. The results in the following table are given as the average composition as determined by a large number of analyses. The suspected vinegars, Nos. "1" and "2," and also the ash of vinegar made by repressing moist fermented apple pomace, are given for comparison.

	Pure cider vinegar ash. Per cent.	Apple pomace vinegar ash. Per cent.	Vinegar (1). Per cent.	Vinegar (2). Per cent.
Calcium Oxide (CaO).....	8.40 to 8.21	4.73	4.70	5.86
Magnesium oxide (MgO).....	1.88 to 3.44	4.12	2.00	2.22
Potassium oxide (K ₂ O).....	46.33 to 66.64	37.00	None	7.84
Sodium oxide (Na ₂ O).....	Trace to trace	Trace	49.71	Trace
Sulphuric anhydride (SO ₃).....	4.66 to 16.29	34.78	27.04	12.74
Phosphoric anhydride (P ₂ O ₅).....	8.29 to 6.66	9.66	0.006	1.82
Iron oxide (Fe ₂ O ₃).....	None to trace	Trace	Trace	1.60
Carbon dioxide, loss, etc.	40.44 to 0	9.61	16.64	35.83

The results of these analyses plainly showed that suspected vinegar No. 1 was composed of dilute acetic acid, glucose, and soda-ash. Suspected vinegar No. 2 was a mixture of acetic acid, boiled cider, and lime.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	63
Cases nolle prossed*.....	13

CASES DISPOSED OF.

Before Examining Magistrates, 45 {	Defendants bound over to trial courts....	38
	Defendants discharged on examination..	7
In Trial Courts.....39 {	Defendants convicted.....	37
	Defendants acquitted.....	2
Cases pending May 1, 1900		20

PROCEEDINGS HAD DURING THE MONTH OF MAY, 1900.

In the case pending in justice court of the city of Marshall against James Williams, of Battle Creek, Mich., charged with having served oleomargarine without displaying the required sign, defendant on the 11th inst., waived examination and was bound over to the circuit court for the county of Calhoun for trial.

On the 24th inst., the case came up for trial in said court before Judge Smith and a jury. Defendant was convicted. The court granted defendant ten days in which to move for a new trial.

In the case pending in the circuit court for the county of Calhoun against James B. Chapple of Battle Creek, Mich., charged with having served oleomargarine without displaying the required sign, defendant on being arraigned in said court on the 21st inst., entered a plea of guilty. Court has not yet imposed sentence.

In the case pending in the circuit court for the county of Berrien against Schuyler C. Unrah, of St. Joseph, Mich., charged with having served oleomargarine without displaying the required sign, defendant on being arraigned in said court on the 21st inst., entered a plea of guilty. Court has not yet imposed sentence.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of May:

Grand Rapids, Big Rapids, Newaygo, Fremont, Lansing, Pontiac, Detroit, Au Sable, East Tawas, Tawas City, Turner, Twining, Bay City.

DAIRY INSPECTION.

Report of dairies inspected during the month of May, 1900.

At Eaton Rapids:

J. P. Scott—Condition of cows, good and clean; feed, hay, bran, shorts and corn meal; stables, neat and clean; yard, fairly clean and dry; ventilation, good; water, well.

Wm. E. Hale—Condition of cows, very good and clean; feed, pasture, hay and gluten feed; stables, very neat and clean, uses lime on floors; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to W. B. Marshall.

Dennis Miller—Condition of cows, good and clean; feed, pasture, gluten feed and bran; stables, fairly good but neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to C. Montgomery.

Levi Winn—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, creek and well.

At Charlotte:

H. Beard—Condition of cows, good and clean; feed, pasture, corn meal, bran and gluten feed; stables, fairly good but neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to H. T. Beard.

C. R. O'Leary—Condition of cows, good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, fairly clean and dry; drainage, poor; ventilation, good; water, well.

T. B. Cushing—Condition of cows, good and clean; feed, pasture, hay, ground corn, oats and bran; stables neat and clean except the dust and cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well.

L. M. Wood—Condition of cows, good and clean; feed, pasture, does not feed grain in stable; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

A. C. Lane—Condition of cows, good and clean; feed, pasture and ground corn and oats; stables, fairly neat and clean; yard, fairly clean and dry; drainage, good; ventilation, good; water, creek and well.

At Wayne:

Austin Bros.—Condition of cows, good and clean; feed, pasture; stables, very neat and clean; yard, very clean and dry; drainage, good; ventilation, good; water, well.

George L. Sawslayer—Condition of cows, fairly good but clean; feed, pasture and hay; stables, good, neat and clean; yard, very clean and dry; drainage, good; ventilation, good; water, well.

G. W. Bell—Condition of cows, very good and clean; feed, pasture, bran and ground corn and oats; condition of stables, not very good but fairly neat and clean; yard, clean and dry; drainage, good; ventilation, poor; water, well; sells milk to A. Sackett.

Henry Carlston—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, fairly clean and dry; drainage, good; ventilation, fair; water, creek and well.

B. Boice—Condition of cows, good and clean; feed, pasture and hay; stables, fairly neat and clean; yard, wet and full of manure; drainage, fair; ventilation, good; water, well.

At Northville:

G. C. Benton—Condition of cows, very good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, river.

C. M. Thornton—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, fairly clean and dry; drainage, good; ventilation, good; water, spring, creek.

At Albion:

T. C. Radel—Condition of cows, very good and clean; feed, clover pasture, ground oats and bran; stables, fairly neat and clean; ceiling full of dust and cobwebs; yard, clean and dry; drainage, good; ventilation, good; water, well; tank, fairly clean; milk room neat and clean.

Mary E. Ismond—Condition of cows, good and clean; feed, pasture, hay and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; tank fairly clean; milk room, neat and clean; sells milk to Leonard Shields.

N. W. Southworth—Condition of cows, very good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; water, well; tank clean.

J. K. O'Hare—Condition of cows, very good and clean; feed, pasture, hay, corn meal and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; tank fairly clean.

G. E. Murdock—Condition of cows, good and clean; feed, pasture and corn meal; stables, fairly neat and clean; some cobwebs on ceiling; yard, fairly clean but dry; drainage, fair; ventilation, fair; water, well; tank, fairly clean.

Mrs. C. E. Hartung—Condition of cows, very good and clean; feed, pasture and ground corn and oats; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; tanks very clean.

At Marshall:

Ernest W. Cushman—Condition of cows, good and clean; feed, pasture; stables, old and just fairly clean, expects to have new one soon; yard, low and contains some manure; ventilation, poor; water, well.

Geo. S. Wolsey—Condition of cows, fairly good and clean; feed, pasture; stables, fairly neat and clean; yard, clean and dry; drainage, fair; ventilation, good; water, well and pond.

W. G. Williamson—Condition of cows, good and clean; feed, pasture and bran; stables, neat and clean; part of floors being cement; yard, very clean and dry; drainage, good; ventilation, good; water, well and river; tank, clean.

Fred German—Condition of cows, good and clean; feed, pasture; yard, clean and dry; drainage, good; water, river.

L. C. Calkins—Condition of cows, fine and clean; feed, pasture; stables, neat and clean, cement floors; yard, clean and fairly dry; drainage, fair; ventilation, good; water, well; tank clean.

H. L. Lathrop—Condition of cows, very good and clean; feed, Alfalfa, bran and corn meal; stables, neat and clean; uses lime on floors; yard, fairly clean but dry; drainage, good; ventilation, good; water, well.

At Grass Lake:

S. G. Smith—Condition of cows, very good and clean; feed, pasture; stables, fairly neat and clean; yard, a little wet and dirty; drainage, poor; ventilation, good; water, well; tank, clean.

At Chelsea:

Tom Wilkinson—Condition of cows, good and clean; feed, pasture; stables, very dirty; yard, clean and dry; drainage, good; ventilation, poor; water, well; sells milk to Geo. Ward.

George V. Clarke—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; water, well.

Jacob Hummel—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well and creek.

W. T. Tuttle—Condition of cows, good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

L. G. Ward—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., May 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of May 30 samples of food products have been examined, 11 being pure and 19 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Butter.....	1	1	0
Cinnamon.....	1	0	1
Cream of Tartar.....	2	2	0
Extracts.....	11	5	6
Honey.....	1	1	0
Jelly.....	5	0	5
Pepper.....	2	0	2
Pickles.....	1	1	0
Rye Flour.....	1	1	0
Vinegar.....	5	4	1
Totals.....	30	11	19

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

CINNAMON.

No. K-137. Sample of Cinnamon from S. DeLong, Bangor.
Sold (1899) by Corbin, May & Co., Chicago, Ill.

Ash..... 5.26 per cent.

Microscopical examination shows presence of foreign starchy matter.

EXTRACTS (Flavoring).

No. G-853. Sample of Vanilla from Bird Bros., Pontiac.
Sold (1900) by E. W. Gillett, Chicago, Ill.
Producer, E. W. Gillett, Chicago, Ill.

Vanillin..... 0.221 per cent.
Coumarin..... 0.052 " "
Color..... Artificial.

Contains coumarin and is artificially colored.

No. G-857. Sample of Extract of Vanilla from Egbert H. Cooper, Detroit.
Sold (1900) by Schorndorfer & Eberhard, Cleveland, Ohio.

Vanillin..... 0.009 per cent.
Coumarin..... 0.055 " "
Vanilla resin..... Present.
Organic acids, gums, etc..... Present.
Color..... Artificial.

Contains coumarin and is artificially colored.

No. G-866 Sample of "Vanilla" from Samuel Anker, East Tawas.
Sold (1900) by Berdan & Co., Toledo, Ohio.
Producer, Berdan & Co., Toledo, Ohio.

Vanillin..... 0.096 per cent.
Coumarin..... 0.021 " "
Vanilla resin..... Present.
Organic acids, gums, etc..... Present.
Color..... Artificial.

Contains coumarin and is artificially colored.

No. G-875. Sample of "Concentrated Extract of Tonka and Vanilla" from Frank Wasieleski, Bay City.

Sold (1900) by Meisel & Goeschel, Bay City.

Producer, Chicago Chemical Co.

Vanillin..... 0.013 per cent.
Coumarin..... 0.051 " "
Vanilla resin..... Trace.
Organic acids, gums, etc..... Present.
Color..... Artificial.

Artificially colored.

No. G-876. Sample of "Vanilla Flavor Compound" from Wm. V. Prybeski, Bay City.
Sold (1899) by W. I. Brotherton & Co., Bay City.
Producer, Star Extract Co., Dayton, Ohio.

Vanillin	0.127 per cent.
Coumarin	0.034 " "
Vanilla resin	None.
Organic acids, gums, etc.	None.
Color	Artificial.

An artificial preparation.

No. G-879. Sample of "Concentrated Extract of Tonka and Vanilla" from Gust Klenbaum & Son, Bay City.
Sold (1900) by Meisel & Goeschel, Bay City.
Producer, Chicago Chemical Co.

Vanillin	0.013 per cent.
Coumarin	0.061 " "
Vanilla resin	Trace.
Organic acids, gums, etc.	Present.
Color	Artificial.

Artificially colored.

JELLY.

No. G-855. Sample of Fruit Jelly from Egbert H. Cooper, Detroit.
Sold (1900) by E. B. Gallagher & Co., Detroit.
Producer, Lyman, Johnson & Co., Boston, Mass.

Water	39.80 per cent.
Ash	0.77 " "
Reducing sugar before inversion	30.48 " "
Reducing sugar after inversion	32.05 " "
Polarization before inversion	+100. degrees.
Polarization after inversion	+96.8 " "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

No. G-858. Sample of Strawberry Jelly from E. B. Gallagher & Co., Detroit.
Sold (1899) by The E. G. Dailey Co., Detroit.
Producer, The E. G. Dailey Co., Detroit.

Water	31.76 per cent.
Ash	0.50 " "
Reducing sugar before inversion	50.50 " "
Reducing sugar after inversion	52.70 " "
Polarization before inversion	+48 degrees.
Polarization after inversion	+44 " "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

No. G-859. Sample of Jelly from Fred A. Gause, Detroit.
Sold (1900) by W. E. Heams & Co., Detroit.

Water	32.41 per cent.
Ash	0.50 " "
Reducing sugar before inversion	36.92 " "
Reducing sugar after inversion	37.70 " "
Polarization before inversion	+119. degrees.
Polarization after inversion	+114.4 " "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

No. G-871. Sample of "Compound Strawberry Jelly" from Sam Rosenthal, Turner.

Sold (1900) by Berdan & Co., Toledo, Ohio.

Producer, Champion Syrup Refining Co., Indianapolis, Ind.

Water.....	30.00 per cent.
Ash.....	0.52 " "
Reducing sugar before inversion.....	30.48 " "
Reducing sugar after inversion.....	31.50 " "
Polarization before inversion.....	+124. degrees.
Polarization after inversion.....	+116.6 " "
Starch paste.....	Present.
Color.....	Artificial.

Imitation fruit jelly artificially colored.

No. G-874. Sample of "Compound Fruit Jelly" from Frank Waiselewski, Bay City.

Sold (1900) by Gustin, Cook & Buckley, Bay City.

Producer, Exley, Watkins & Co., Wheeling, W. Va.

Water.....	42.06 per cent.
Ash.....	0.61 " "
Reducing sugar before inversion.....	29.50 " "
Reducing sugar after inversion.....	32.00 " "
Polarization before inversion.....	+96 degrees.
Polarization after inversion.....	+89.1 " "
Color.....	Artificial.

Imitation fruit jelly artificially colored.

PEPPER.

No. G-850. Sample of pepper from Geo. W. Wilson, Pontiac.

Sold (1899) by Moran, Fitzsimmons Co., Detroit.

Ash.....	4.47 per cent.
Starch.....	25.57 " "

Microscopical examination shows presence of rice and other foreign starchy matter.

No. G-870. Sample of pepper from Sam Rosenthal, Turner.

Sold (1900) by W. I. Brotherton & Co., Bay City.

Producer, W. I. Brotherton & Co., Bay City.

Total ash.....	28.63 per cent.
Sand.....	23.01 " "
Starch.....	22.50 " "
Pepper hulls.....	-----

Adulterated with sand.

VINEGAR.

No. G-851. Sample of cider vinegar from John F. Moutier, Pontiac.

Sold by The Leroux Cider & Vinegar Co., Toledo., Ohio.

Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0172
Acid as acetic.....	4.08 per cent.
Total solids.....	3.17 " "
Ash.....	0.36 " "

Not pure cider vinegar.

No. G-854. Sample of cider vinegar from I. Broughton, Pontiac.
 Sold by The Leroux Cider & Vinegar Co., Toledo, Ohio.
 Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0163
Acid as acetic.....	4.08 per cent
Total solids.....	2.75 " "
Ash.....	0.31 " "

Not pure cider vinegar.

No. G-863. Sample of cider vinegar from H. M. Louds Sons Co., Au Sable.
 Sold by The Leroux Cider & Vinegar Co., Toledo, Ohio.
 Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0160
Acid as acetic.....	4.08 per cent.
Total solids.....	2.78 " "
Ash.....	0.25 " "

Not pure cider vinegar.

No. G-867. Sample of cider vinegar from Samuel Anker, East Tawas.
 Sold by Holmes & Kelsey, Alpena.
 Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0145.
Acid as acetic.....	3.84 per cent.
Total solids.....	2.64 " "
Ash.....	0.33 " "

Not pure cider vinegar.

No. G-868. Sample of cider vinegar from Jos. G. Damnick, East Tawas.
 Sold by The Leroux Cider & Vinegar Co., Toledo, Ohio.
 Producer, The Leroux Cider & Vinegar Co., Toledo, Ohio.

Specific gravity.....	1.0165
Acid as acetic.....	4.22 per cent.
Total solids.....	2.81 " "
Ash.....	0.29 " "

Not pure cider vinegar.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flower, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled, "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthly or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled, "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituos, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designated as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs, or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1207 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

THE ADULTERATIONS OF THE CALIFORNIA PERFUME CO.

The department again wishes to warn the public against certain non-resident concerns who are attempting to sell adulterated goods direct to the consumer through the medium of itinerant or house to house peddlers.

We regret that such concerns, operating as they do without the State, are beyond our jurisdiction and cannot be reached by process from our criminal courts. Under the law, the responsibility for the purity of all articles sold in this manner must necessarily be confined to the person handling the same within the State.

In this connection we call the attention of the public to an alleged "Concentrated Extract of Vanilla," which has lately been offered for sale in Michigan. This product is purported to be manufactured by the California Perfume Co., of New York City. Samples of these goods have been taken up by our inspectors and our chemists report the same to be gross adulterations.

Through the medium of the Bulletin we caution the trade and public against the purchase of this company's adulterations, as we will extend *no lenity* to persons found within the State having the same in their possession for sale.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1899.

Cases pending July 1, 1899.....	16
Cases commenced since said date.....	64
Cases nolle prossed*.....	14

CASES DISPOSED OF.

Before Examining Magistrates .. 49	{ Defendants bound over to trial courts..	42
	{ Defendants discharged on examination.	7
In Trial Courts..... 41	{ Defendants convicted	39
	{ Defendants acquitted	2
Cases pending July 1, 1900.....		18

PROCEEDINGS HAD DURING THE MONTH OF JUNE, 1900.

Complaint was made on the 6th inst., in justice court of the city of Ypsilanti against George Wiard of Ypsilanti, Mich., charged with selling adulterated vinegar. On the 30th inst., defendant entered a plea of guilty to said charge. A fine of \$50.00 was imposed by the court.

In the case pending in the circuit court for the county of Ingham against Charles P. Downey of Lansing, Mich., charged with having served oleo margarine in a hotel without displaying the required sign, the defendant on the 12th inst. changed his plea of not guilty to a plea of guilty. The court imposed a fine of \$60.00 with \$15.00 costs.

* Oleomargarine cases, Statute repealed.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of June:

Mt. Clemens, Detroit, Kalamazoo, Hastings, Middleville, Pontiac.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of June, 1900:

At Saginaw:

Mike Kinney—Condition of cows, good and clean; feed, pasture and hay; stables, neat and clean, have been whitewashed; yard, clean and dry; drainage, fair; ventilation, fair; water, well and creek.

T. O. Heame—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, a little wet and dirty; drainage, good; ventilation, fair; water, well; sells milk to James Campbell.

John Blank—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator; sells milk to James Campbell.

John P. Seidel—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to George Smith.

George Seidel—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Paul Schramm.

Conrad Seidel—Condition of cows, good and clean; feed, pasture; stables, very neat and clean and nicely whitewashed; yard, very clean and dry; drainage, good; ventilation, good; water, well; sells milk to Paul Schramm.

Peter Neurminger—Condition of cows, good and clean; feed, pasture; stables, neat and clean, nicely whitewashed; yard, clean and dry; ventilation, good; drainage, good; water, well; sells milk to George Smith.

Henry Baldauf—Condition of cows, good and clean; feed, pasture; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; water, well; sells milk to Leonard Hage.

William Desham—Condition of cows, good and clean; feed, pasture; stables, old but clean; ceilings, dusty and full of cobwebs; yard, clean and dry; drainage, good; water, well; ventilation, good.

Chas. Muehlenbeck—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, very dry and clean; drainage, good; ventilation, good; water, well.

Thos. Gordon—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to H. Borland.

Henry Stetecriede—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to H. Borland.

Con. Devers—Condition of cows, good and clean; feed, pasture; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

J. A. Sloeum—Condition of cows, good and clean; feed, pasture, bran and corn meal; stables, neat and clean; yard, fairly clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator; sells milk to Spotts.

John Horgan—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, fairly clean and dry; drainage, good; ventilation, good; water, well.

Martin Manion—Condition of cows, very good and clean; feed, pasture; stables, very neat and clean, nicely whitewashed; yard, very clean and dry; drainage, very good; ventilation, good; water, well; tank, clean.

Adolph Winterstein—Condition of cows, good and clean; feed, pasture and corn meal; stables, fairly neat and clean; some dust and cobwebs on ceiling; yard, fairly clean and dry; drainage, good; ventilation, fair; water, well.

William Magow—Condition of cows, good and clean; feed, pasture; stables, old and not very clean; yard, clean and dry; drainage, good; ventilation, fair; water, well.

Chas. Boldebuck—Condition of cows, fairly good but clean; feed, pasture; stables, neat and clean, a few cobwebs on ceiling; condition of yard, fairly clean and dry; drainage, good; ventilation, good; water, well and pond.

Chas. Heinroth—Condition of cows, good and clean; feed, pasture, bran and hay; stables, fairly clean; ceilings very low and floor poor; drainage from stable, poor; yard, clean and dry; ventilation, poor; water, well.

John Everett—Condition of cows, good and clean; feed, pasture and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, city and well.

Chas. Kinse—Condition of cows, good and clean; feed, pasture and bran; stables, fairly clean and neat; some cobwebs and dust on ceilings; yard, clean and dry; drainage, good; ventilation, good; water, well and city.

Arthur McKenna—Condition of cows, good and clean; feed, pasture; yard, clean and dry; water, ditch.

George Brewer—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, clean and dry; drainage, fair; ventilation, fair; water, city and well.

Edward Prime—Condition of cows, good and clean; feed, pasture; stables, clean and neat; yard, clean and dry; drainage, good; ventilation, good; water, well.

Chas. Desham—Condition of cows, good and clean; feed, pasture; stables, dirty and ceilings full of cobwebs; yard, wet, dirty and full of manure; drainage, fair; ventilation, fair; water, city.

Fred Heidtman—Condition of cows, very good and clean; feed, pasture, stale bread and potatoes; stables, very neat and clean; yard, very clean and dry; drainage, good; ventilation, good; water, city; tank, clean.

William Qualman—Condition of cows, very good and clean; feed, pasture, bran and shorts; stables, neat and clean and whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, city; tank, clean.

William Opitz—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

DeWitt Gage—Condition of cows, good and fairly clean; feed, pasture; stables, fairly clean and neat and whitewashed; yard, rather wet and dirty; drainage, poor; ventilation, fair; water, well; tank, clean; milk room very neat and clean, has cement floor; uses an aerator; sells milk to Fred Heidtman.

Harry Dare—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard clean and dry; drainage, good; ventilation, fair; water, city and well.

Joseph Fischer—Condition of cows, good and clean; feed, pasture and bran; stables, fairly neat and clean; yard, clean and fairly dry; drainage, good; ventilation, fair; water, creek and well.

Henry Koerner—Condition of cows, good and clean; feed, pasture; stables, neat and clean; uses lime on floors; yard a little wet and manure piled near barn; ventilation, fair; water, well; tank, clean; drainage, fair.

N. E. Albrite—Condition of cows, fair but clean; feed, pasture; stables, not very clean and ceilings full of dust and cobwebs; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; tank, clean.

Milo Sperry—Condition of cows, good and clean; feed, pasture; stables, very neat and clean, nicely whitewashed; yard, a little wet and dirty; drainage, fair; ventilation, good; water, well; tank, clean; sells milk to Ezra Fry.

Joseph Ahrens—Condition of cows, good and clean; feed, pasture, bran and ground corn and oats; stables, good and very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; tank clean.

John Koch—Condition of cows, very good and clean; feed, pasture, bran and shorts; stables, very neat and clean and nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; tank clean.

Chas. Wolgast—Condition of cows, good and clean; feed, pasture, bran and shorts; stables, fairly neat and clean; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; tank, clean.

Louis Kettlehohon—Condition of cows, good and clean; feed, bran, ground oats and pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well.

Rheinhardt Maiske—Condition of cows, good and clean; feed, pasture, bran and shorts; stables, fairly neat and clean; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well.

Philip Fisher—Condition of cows, good and clean; feed, pasture; stables, neat and clean, nicely whitewashed; yard, fairly clean and dry; ventilation, good; water, well.

Chris. Ahrens—Condition of cows, very good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, fairly clean and dry; ventilation, fair; water, well; tank, clean.

R. Weidenmiller—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; has manure piled near stable door.

Jacob Volz—Condition of cows, good and clean; feed, pasture and bran; stables, neat and clean and nicely whitewashed; yard, fairly clean and dry; manure piled against stable; ventilation, fair; water, well; drainage, fair.

Chas. Mohs—Condition of cows, good and clean; feed, pasture; stables in fairly good condition but rather dirty, cobwebs on ceiling; bad odor of sour milk in stable; yard, fairly clean and dry; ventilation, fair; water, well; tank, clean.

Buena Vista Sag. Co.—Condition of cows, good and clean; feed, pasture and shorts; stables, rather old and in poor condition, but fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; tank, clean.

Geo. Phoenix—Condition of cows, good and clean; feed, pasture and corn

meal; stables, old and poor but fairly neat and clean; yard, dry but full of manure near stable; drainage, fair; ventilation, poor; water, city.

Arthur Edwards—Condition of cows, good and clean; feed, pasture; stable, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Ezra Fry—Condition of cows, good and clean; feed, pasture, corn meal and some malt; stables, neat and clean; yard, fairly clean but dry; drainage, good; ventilation, fair; water, well; tank, fairly clean; milk room and creamery room, neat and clean; uses a separator.

Edward Simon—Condition of cows, good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, fairly clean and dry; drainage, good; ventilation, fair; water, river; sells milk to Jessie Banett.

Albert G. Dow—Condition of cows, good and clean; feed, pasture; stables, in good condition but dirty, ceilings being full of dust and cobwebs; yard, clean and dry; drainage, good; ventilation, fair; water, well; tank, clean; milk room neat and clean.

H. M. Yeomans—Condition of cows, good and clean; feed, pasture, bran and corn meal; stables, neat and clean; yard, clean and dry; drainage, good; water, well and pond; sells milk to Tony Salmer.

John Toms—Condition of cows, good and clean; feed, pasture, green rye, corn meal and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well.

Thomas Phoenix—Condition of cows, good and clean; feed, pasture; stables, neat and clean and nicely whitewashed; yard, clean and dry except near stable; drainage, fair; ventilation, good; water, well; tank, clean.

Nat Blanchard—Condition of cows, good and clean; feed, pasture; stables, neat and clean and nicely whitewashed; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; tank, clean; uses an aerator.

Andrew Wendt—Condition of cows, good and clean; feed, pasture, bran or beets; stables, neat and clean except some cobwebs on ceiling; yard, clean and fairly dry; drainage, fair; ventilation, good; water, well and pond.

Austin N. Hill—Condition of cows, good and clean; stables, very neat and clean; feed, pasture; yard, clean and fairly dry; drainage, good; ventilation, good; water, well.

Fred Baner—Condition of cows, good and clean; feed, pasture and ground barley and oats; stables, fairly clean; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well.

Miles N. Rouse—Condition of cows, very good and clean; feed, pas-

ture; stables, in fairly good condition and very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

J. J. Dietrich—Condition of cows, good and clean; feed, pasture; stables, neat and clean; one stable being whitewashed; yard, clean and fairly dry; drainage, fair; ventilation, fair; water, well.

Edward H. Rontus—Condition of cows, good and clean; feed, pasture; stables, rather dirty and some dust and cobwebs on ceiling; yard, full of manure; drainage, fair; ventilation, fair; water, well; tank, clean.

Henry Prueter—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, fairly neat and clean except an accumulation of manure near stable; ventilation, fair; water, well.

Peter Bender—Condition of cows, good and clean; feed, pasture, and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, fair; ventilation, good; water, well; tank, clean; milk room neat and clean.

John W. Dietrich—Condition of cows, good and clean; feed, pasture; stables, neat and clean and are whitewashed; yard, clean and dry; drainage, fair; ventilation, good; water, well.

Louis Scheler—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; tank, clean.

Steve Zuckermandle—Condition of cows, good and clean; feed, pasture and ground corn and oats; stables, neat and clean; yard, clean and fairly dry; drainage, fair; ventilation, good; water, well; tank, clean.

John C. Winkler—Condition of cows, good and clean; feed, pasture and brewery grain; stables, neat and clean; yard, fairly clean but rather wet; drainage, fair; ventilation, good; water, well; tank, clean; milk room, neat and clean having cement floor.

Saginaw Valley Dairy Co.—Condition of cows, good and clean; feed, pasture and bran; stables, neat and clean, nicely whitewashed; yard, clean and fairly dry, although there is some manure near barn; drainage, fair; ventilation, good; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., June 30, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of June 30 samples of food products have been examined, 13 being pure and 17 adulterated.

R. E. DOOLITTLE
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Catsup	1	0	1
Cream of Tartar.....	2	1	1
Extracts, Flavoring.....	8	2	6
Lard.....	1	1	0
Mace.....	1	0	1
Milk.....	3	3	0
Mustard, Dry.....	5	1	4
Pepper.....	2	1	1
Preserves.....	3	3	0
Syrup.....	1	0	1
Vinegar.....	3	1	2
Totals	30	13	17

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

CATSUP.

No. G.-883. Sample of tomato catsup from August Pringnitz, Mt. Clemens.
 Sold (1900) by **Ward L. Andrus & Co., Detroit, Mich.**
 Producer, **The Avery Preserving Co., Detroit, Mich.**

Total solids.....	24.60 per cent.
Ash.....	4.63 " "
Tomato.....	.....
Vinegar.....	.....
Spices.....	.....
Coloring matter.....	.....

Manufacturer's name not properly displayed on package.

CREAM OF TARTAR.

No. G.-900. Sample of cream of tartar from Stirling, Crawford & Co., Hastings.
 Sold (1899) by **J. H. Bell & Co., Chicago, Ill.**

Cream of tartar.....	.....
Sulphate of lime.....	1.68 per cent.
Corn starch.....	0.24 " "

Contains corn starch and sulphate of lime.

EXTRACTS (Flavoring).

No. G.-885. Sample of "Capital Extract of Vanilla and Coumarine" from Bert McInerney, Mt. Clemens.

Sold (1900) by **Northrop, Robertson & Carrier, Lansing, Mich.**
 Producer, **Capital Extract Co., Lansing, Mich.**

Vanillin.....	0.061 per cent.
Coumarin.....	0.120 " "
Color.....	Foreign.

Contains artificial coumarin and foreign coloring matter.

No. G.-892. Sample of "Triple Extract Vanilla" from Imperial Tea Co., Kalamazoo.

Sold (1900) by **Imperial Tea Co., Detroit, Mich.**
 Producer, **Imperial Tea Co., Detroit, Mich.**

Vanillin.....	0.104 per cent.
Coumarin.....	0.098 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	None.
Color.....	Foreign.

An artificial preparation.

No. A-378. Sample of "Capital Extract of Vanilla and Coumarine" from C. H. auch, Spring Arbor.

Producer, **Capital Extract Co., Lansing, Mich.**

Vanillin	0.060 per cent.
Coumarin	0.173 " "
Vanilla resin	None.
Organic acids, gums, etc.....	None.
Color	Foreign.

An artificial preparation.

No. G-894. Sample of "Concentrated Extract of Vanilla" from Warren Skutt, Kalamazoo.

Sold (1900) by **Mrs. John Mitzger, Kalamazoo, Mich.**

Producer, **California Perfume Co., New York, N. Y.**

Vanillin	0.217 per cent.
Coumarin	0.018 " "
Vanilla resin	None.
Organic acids, gums, etc.....	Present.
Color	Foreign.

Extract of Tonka containing added vanillin and artificially colored.

No. K-157. Sample of "Capital Extract of Vanilla and Coumarine" from J. G. Loeding, Traverse City.

Sold (1900) by **Northrop, Robertson & Carrier, Lansing, Mich.**

Producer, **Capital Extract Co., Lansing, Mich.**

Vanillin	0.018 per cent.
Coumarin	0.184 " "
Vanilla resin	None.
Organic acids, gums, etc.....	None.
Color	Foreign.

An artificial preparation.

No. K-165. Sample of "Capital Extract of Vanilla and Coumarine" from James Campbell, Leroy.

Sold (1900) by **Northrop, Robertson & Carrier, Lansing, Mich.**

Producer, **Capital Extract Co., Lansing, Mich.**

Vanillin	0.48 per cent.
Coumarin	0.185 " "
Vanilla resin	None.
Organic acids, gums, etc.....	None.
Color	Foreign.

An artificial preparation.

JELLY.

No. G.-898. Sample of currant jelly from Maxwell Baking Co., Kalamazoo.
Sold (1900) by **Chapman & Davidson Co., Chicago, Ill.**

Water	40.16 per cent.
Ash	0.46 " "
Reducing sugar before inversion	32.94 " "
Reducing sugar after inversion	34.00 " "
Polarization before inversion	+ 122 degrees.
Polarization after inversion	+ 120 "
Color	Artificial.

Imitation fruit jelly artificially colored.

MACE.

No. G-878. Sample of mace from Luke A. Maus, Bay City.

Sold (1900) by Chapman & Davis Co., Chicago, Ill.

Ash.....	1.06 per cent.
Starch.....	66.18 " "
Ether extract.....	7.90 " "

Adulterated with corn meal.

MUSTARD (dry).

No. G-880. Sample of mustard from Lewis & Crofoot, Pontiac.

Sold (1899) by F. H. Leggett & Co., New York, N. Y.

Ash.....	5.86 per cent.
Mustard.....	—
Tumeric.....	—

Artificially colored.

No. G-882. Sample of mustard from Kate Findlay, Pontiac.

Sold (1900) by Moran, Fitzsimons Co., Ltd., Detroit, Mich.

Ash.....	5.98 per cent.
Mustard.....	—
Tumeric.....	—

Artificially colored.

No. G-891. Sample of mustard from Imperial Tea Co., Kalamazoo.

Sold (1899) by Imperial Tea Co., Detroit, Mich.

Ash.....	6.29 per cent.
Mustard.....	—
Tumeric.....	—

Artificially colored.

No. G-899. Sample of mustard from Henry J. Schaberg, Kalamazoo.

Ash.....	6.32 per cent.
Wheat starch.....	11.72 " "
Mustard.....	—

Adulterated with wheat starch.

PEPPER.

No. G-893. Sample of pepper from A. W. Walsh, Kalamazoo.

Sold (1899) by Bennett, Sloan & Co., New York, N. Y.

Ash.....	5.15 per cent.
Starch.....	36.29 " "

Microscopical examination shows presence of wheat, rice and foreign hulls.

SYRUP.

No. G.-884. Sample of sugar syrup from Pringnitz & Ameel, Mt. Clemens.
Sold (1900) by **C. W. Inslee & Co., Detroit, Mich.**

Water	21.88 per cent.
Ash	2.61 " "
Reducing sugar before inversion	32.93 " "
Reducing sugar after inversion	45.87 " "
Polarization before inversion	+ 122 degrees.
Polarization after inversion	+ 94 " "

A glucose mixture.

VINEGAR.

No. G.-890. Sample of cider vinegar from B. Desenberg & Co., Kalamazoo.
Sold (1900) by **The Leroux Cider & Vinegar Co., Toledo, Ohio.**
Producer, **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Specific gravity	1.0171
Acid, as acetic	4.20 per cent.
Total solids	2.86 " "
Ash	0.30 " "

Solids not entirely the solids of cider vinegar.

No. K.-173. Sample of cider vinegar from Lois W. Horton, Grand Rapids.
Sold (1900) by **S. M. Vinton, Grand Rapids, Mich.**

Specific gravity	1.0480
Acid, as acetic	1.73 per cent.
Total solids	14.27 " "
Ash	0.43 " "

Not pure cider vinegar and below the standard in acid strength..

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;
7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are: •

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixture of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND CÔCOAS.—If containing no other substances than cocoa mass, sugar and flavoring will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORING.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simple with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry, or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spiritous, fermented, or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives to milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here" printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must *also* deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacle the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the words "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture" and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half

inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1138 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

PACKAGES CONTAINING MIXTURES OR COMPOUNDS MUST BE PLAINLY MARKED WITH THE NAME AND ADDRESS OF THE MANUFACTURER.

The general proviso of Section three of the Michigan Food Law requires that all mixtures and compounds shall bear the name and address of the manufacturer thereof. Occasionally attempts have been made by manufacturers to evade this requirement by branding upon the label of their goods the name and address of a jobber or retailer, and then pretend to comply with the law by placing their own name in an indistinct and insufficient type and so displayed as to escape the ordinary eye.

There has recently been found upon the market a catsup, manufactured by The Avery Preserving Co., of Detroit, and which bears the name and address of the manufacturer so indistinctly placed as to be difficult of discovery. The department has submitted a sample of this catsup to Hon. Horace M. Oren, Attorney General, and has received the following opinion. After stating the requirements of the act and its title, the opinion says:

“When each and every package of a mixture or compound contains the name and address of the manufacturer as a compliance with the provisions above quoted, such name and address should be placed upon each and every package in such a manner as not to deceive the purchaser and in as conspicuous a position, with size and style of type as any other matter generally appearing upon the package. Anything short of this would, in my opinion, fail to comply with the intent of the legislature.”

Manufacturers will therefore take notice that wherever the law requires the name and address of the manufacturer to appear upon the package, that the same must be ordinarily conspicuous, so as to be easily seen and read by intending purchasers. Hereafter any failure to properly stamp a package which the law requires shall be stamped, will be considered a willful violation of the Michigan Food Law, and punished accordingly.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900.....	18
Cases commenced since said date.....	1
Cases pending August 1, 1900.....	19

PROCEEDINGS HAD DURING THE MONTH OF JULY, 1900.

Complaint was made on the 31st inst. in justice court of the city of Mt. Clemens against Ceren W. Inslee, representing C. W. Inslee & Co. of Detroit, Mich., charged with having sold glucose mixture improperly labeled. Case pending.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of July:

Albion, Alpena, Bay City, Benton Harbor, Bronson, Burdickville, Coldwater, Coloma, Constantine, Detroit, Eaton Rapids, Empire, Fennville, Frankfort, Glen Arbor, Good Harbor, Hamtramck, Jonesville, Lansing, Leland, Mackinac, Maple City, Mt. Clemens, Omena, Provemont, Quincy, Saugatuck, South Haven, St. Joseph, Sturgis, Sutton's Bay, Three Rivers, Traverse City, White Pigeon.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., July 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner*:

SIR—During the month of July 31 samples of food products have been examined, 12 being pure and 19 adulterated.

R. E. DOOLITTLE
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Baking powder.....	4	2	2
Butter.....	1	1	0
Cinnamon.....	4	2	2
Coffee.....	1	0	1
Extracts, Flavoring.....	8	2	6
Fruit coloring.....	1	1	0
Jelly.....	1	0	1
Lard.....	1	1	0
Mustard, Dry.....	2	0	2
Olive oil.....	1	1	0
Pears.....	1	1	0
Pepper.....	1	0	1
Soda.....	1	1	0
Vinegar.....	4	0	4
Totals.....	31	12	19

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BAKING POWDER.

No. L.-7. Sample of baking powder from E. T. Huntington, Benzonia.
Sold (1900) by **Northrop, Robertson & Carrier, Lansing, Mich.**

Corn starch.....	.....
Bicarbonate of soda .....	.....
Phosphate of lime.....	.....
Alum.....	.....

Package does not bear name and address of manufacturer.

No. L.-19. Sample of baking powder from R. G. Paulin, Traverse City.
Sold (1900) by **Symons Bros. & Co., Saginaw, Mich.**

Corn starch.....	.....
Bicarbonate of soda .....	.....
Alum.....	.....

Package does not bear name and address of manufacturer.

CINNAMON.

No. K.-176. Sample of cinnamon from E. F. Ray, Glen Arbor.
Sold (1899) by **Reid, Murdock & Co., Chicago, Ill.**

Ash	4.80 per cent.
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Microscopical examination shows the presence of foreign starchy matter.

No. K.-179. Sample of cinnamon from J. M. Kenny, South Haven.
Sold (1900) by **Kramer & Son, La Porte, Ind.**

Ash	3.61 per cent.
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Microscopical examination shows the presence of foreign starchy matter.

COFFEE.

No. L.-4. Sample of crushed coffee from A. B. Case Co., Honor.
Sold (1899) by **W. F. McLaughlin & Co., Chicago, Ill.**

Peas and chicory.....	48.20 per cent.
Coffee	51.80 " "

Adulterated with peas and chicory.

EXTRACTS (Flavoring).

No. G.-901. Sample of "Vanilla" from Barnard Bockheim, Detroit.
Sold (1900) by **Frederick F. Ingram & Co., Detroit, Mich.**

Producer, **Frederick F. Ingram & Co., Detroit, Mich.**

Vanillin	0.380 per cent.
Vanilla resin	None.
Color	Foreign.

Contains artificial vanillin and foreign coloring matter.

No. G.-902. Sample of "Pure Extract Vanilla and Tonka" from Barnard Bockheim, Detroit.

Sold (1900) by **W. E. Bartholmew, Detroit, Mich.**

Producer, **W. E. Bartholmew, Detroit, Mich.**

Vanillin	0.180 per cent.
Coumarin	0.016 " "
Vanilla resin	None.
Organic acids, gums, etc	Present.

Extract of tonka containing added vanillin.

No. G.-908. Sample of "Extract of Vanilla and Tonka" from Alex. Richter, Detroit.

Sold by **Dossin & Beaudoin, Detroit, Mich.**

Producer, **The J. P. Dieter Co., Chicago, Ill.**

Vanillin	Trace.
Coumarin	0.031 per cent.
Vanilla resin	Trace.
Organic acids, gums, etc	Present.
Color	Foreign.

Contains foreign coloring matter.

No. G.-913. Sample of "Pure Concentrated Extract Vanilla" from Dominick La Tour, Detroit.

Sold (1900) by **Fred R. Frey, Detroit, Mich.**

Producer, **Dr. Hooper Chemical Co., Detroit, Mich., and Cleveland, Ohio.**

Vanillin	0.307 per cent.
Coumarin	0.030 " "
Vanilla resin	None.
Organic acids, gums, etc	None.
Color	Foreign.

An artificial preparation.

No. K.-174. Sample of "Vaniline and Tonka" from The E. R. Dailey Co., Sutton Bay.

Sold (1900) by **Franklin Mac Veagh & Co., Chicago, Ill.**

Producer, **Franklin Mac Veagh & Co., Chicago, Ill.**

Vanillin	0.054 per cent.
Coumarin	0.060 " "
Vanilla resin	None.
Organic acids, gums, etc	None.
Color	Foreign.

An artificial preparation.

No. L.-5. Sample of "Perfection Vanilla Flavoring" from A. B. Case Co., Honor. Producer, **Saxon Extract Co., Chicago, Ill.**

Vanillin	0.066 per cent.
Coumarin	0.125 " "
Coloring.....	Foreign.

Contains coumarin and foreign coloring matter.

JELLY.

No. L.-18. Sample of "Currant Flavored Jelly" from Nelson & Johnson, Traverse City.

Sold (1900) by **Lutz & Schramm Co., Alleghany, Pa.**

Producer, **Lutz & Schramm Co., Alleghany, Pa.**

Water	30.08 per cent.
Ash	0.56 " "
Reducing sugar before inversion	33.12 " "
Reducing sugar after inversion.....	56.48 " "
Polarization before inversion.....	+ 62 degrees.
Polarization after inversion.....	+ 26 " "
Starch paste.....	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

MUSTARD (dry).

No. G.-903. Sample of mustard from Barnard Bockheim, Detroit.

Sold (1900) by **Carl Weise, Detroit, Mich.**

Total ash	7.42 per cent.
Insoluble ash.....	1.15 " "
Wheat starch.....	7.03 " "
Mustard.....	.....

Adulterated with wheat starch.

No. L.-2. Sample of mustard from Gill Bros., Gill's Pier.

Sold (1899) by **Smith, Thorndike & Brown Co., Milwaukee, Wis.**

Total ash	7.68 per cent.
Sulphate of lime	4.89 " "
Wheat starch	41.66 " "
Mustard.....	.....
Tumeric.....	.....

Adulterated with wheat starch and sulphate of lime and artificially colored.

PEPPER.

No. G.-911. Sample of pepper from Frank Gross, Detroit.

Sold (1900) by **Phelps, Brace & Co., Detroit, Mich.**

Total ash.....	9.22 per cent.
Sand.....	3.87 " "
Pepper .....	.....

Contains an excessive amount of sand.

VINEGAR.

No. G.-920. Sample of cider vinegar from M. J. Secord & Son, Bay City.

Sold (1900) by **Meisel & Goeschel, Bay City, Mich.**

Producer, **Oakland Vinegar and Pickle Co., Highland, Mich.**

Specific gravity	1.0169		
Acid, as acetic	4.20	per cent.	
Total solids	2.94	"	"
Ash	0.35	"	"

Not pure cider vinegar.

No. K.-175. Sample of cider vinegar from L. F. Sheridan, Glen Arbor.

Sold (1899) by **Smith, Thorndike & Brown Co., Milwaukee, Wis.**

Specific gravity	1.0219		
Acid, as acetic	3.48	per cent.	
Total solids	4.47	"	"
Ash	0.30	"	"

Not pure cider vinegar.

No. K.-177. Sample of cider vinegar from Empire Lumber Co., Empire.

Sold (1899) by **Hannah Lay Mercantile Co., Traverse City, Mich.**

Producer, **Oakland Vinegar and Pickle Co., Highland, Mich.**

Specific gravity	1.0158		
Acid, as acetic	3.93	per cent.	
Total solids	2.50	"	"
Ash	0.25	"	"

Not pure cider vinegar.

No. K.-185. Sample of cider vinegar from M. W. Porter, Quincy.

Sold (1899) by **Church & McConnell Co., Toledo, Ohio.**

Specific gravity	1.0175		
Acid, as acetic	4.41	per cent.	
Total solids	2.37	"	"
Ash	0.44	"	"

Not pure cider vinegar.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed; or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour." in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words, "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound."

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two inches in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the percent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FABINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the

word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

BULLETIN NO. 60

AUGUST 1900

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR. - - - - - COMMISSIONER

W. H. TUNNICLIFFE, - - - - - DEPUTY COMMISSIONER

R. E. DOOLITTLE, - - - - - STATE ANALYST

BRANCH OFFICE

1183 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

The attention of the trade is called to the proper labeling of flavoring extracts. All packages containing extracts must bear the name and address of the manufacturer thereof; such name and address to be ordinarily conspicuous, so as to be easily seen and read by intending purchasers. Dealers, before purchasing, should see that such goods are so labeled to comply with the law.

Some manufacturers have attempted to put on the markets, extracts containing more than one principle, under a label giving greater prominence to the superior ingredient, the inferior ingredient being printed in smaller and less prominent type.

It must be understood that when an extract is composed of more than one principle, such as an extract of vanilla and tonka, the type used must be similar in size, and the name of the superior article must not be given greater prominence than the inferior.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900.....	18
Cases commenced since said date	11

CASES DISPOSED OF.

Before Examining Magistrates....	1	{	Defendants bound over to trial courts...	1
			Defendants discharged on examination..	0
In Trial Courts.....	1	{	Defendants convicted,.....	1
			Defendants acquitted.....	0
Cases pending September 1, 1900.....				28

PROCEEDINGS HAD DURING THE MONTH OF AUGUST, 1900.

Complaint was made on the 15th inst. in justice court of the city of Flint, against William B. Hollingworth, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Andrew Sproat, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Grove B. Maltby, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against William D. Dickson, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Lewis Hiller, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Charles C. Atherton, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Reuben N. Pratt, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Thomas H. Baker, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 15th inst. in justice court of the city of Flint, against Louis C. Ketzler, charged with having sold milk containing formaldehyde.

Examination set for September 15th.

Complaint was made on the 20th inst. in the police court of the city of Saginaw, against Charles Boldebuck, charged with having offered for sale milk containing boracic acid.

Examination set for September 14th.

In the case pending in justice court of the city of Mt. Clemens against Cereno W. Inslee, representing C. W. Inslee & Co., of Detroit, Mich., charged with having sold glucose mixture improperly labeled, defendant on the 7th inst. waived examination and was bound over to the circuit court for the county of Macomb for trial. On the 7th inst. defendant was arraigned in said court and entered a plea of guilty. A fine of \$25.00 was imposed by the court.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of August:

Columbiaville, Otter Lake, Hadley, Lapeer, Highland, Elba, White Lake, Rose Center, Clyde, Ox Bow Lake, Commerce, South Lyons, New Hudson, Novi, Walled Lake, Wixom, Milford, Ortonville, Oakwood, Thomas, Oxford, Orion, Clarkston, Matamora, Dryden, Almont, Thornville, Holly, Davisburg, Leonard, Lakeville, Waterford, Birmingham, Royal Oak, Southfield, Franklin, North Farmington, Farmington, Rochester, Mackinac Island, Alpena, Detroit, Harbor Beach, Port Hope, Redman, Bad Axe, Sault Ste. Marie, Fowlerville, Howell, Grand Ledge, Portland, Ionia.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., August 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of August 203 samples of food products have been examined, 166 being pure and 37 adulterated.

R. E. DOOLITTLE

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	1	0	1
Cinnamon.....	2	1	1
Cocoanut.....	2	2	0
Extracts, Flavoring.....	11	2	9
Ginger.....	1	1	0
Honey.....	1	1	0
Jelly.....	2	1	1
Milk.....	172	156	17
Mustard.....	2	0	2
Pepper.....	3	0	3
Vinegar.....	6	3	3
Totals.....	203	166	37

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

ALLSPICE.

No. K.-189. Sample of allspice from G. F. Whitney & Son, Ionia.
 Sold (1900) by **Burno Metzger & Co., Philadelphia, Pa.**
 Producer, **Burno Metzger & Co., Philadelphia, Pa.**

Ash	6.32 per cent.
Foreign starchy matter.....	Present.

Microscopical examination shows presence of foreign starchy matter.

CINNAMON.

No. G.-933. Sample of cinnamon from Wellman L. Knight, Roscommon.
 Sold (1900) by **Gustin, Cook & Buckley, Bay City.**

Ash	4.88 per cent.
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Microscopical examination shows presence of foreign starchy matter.

EXTRACTS (Flavoring).

No. G.-930. Sample of "Compound Extract of Vanilla and Tonka" from Orth Grocery Co., Detroit.

Sold (1900) by **Schorndorfer & Eberhardt, Cleveland, Ohio.**

Vanillin	0.012 per cent.
Coumarin	0.035 " "
Vanilla resin	Present.
Organic acids, gums, etc	"
Color	Foreign.

Artificially colored. Package does not bear name and address of manufacturer.

No. K.-178. Sample "Double Strength Extract of Vanilla" from R. S. Shiffert, Fennville.

Sold (1897) by **J. P. Dieter Co., Chicago, Ill.**

Producer, **J. P. Dieter Co., Chicago, Ill.**

Vanillin	Trace.
Vanilla resin	"
Organic acids, gums, etc.....	Present.
Color	Foreign.

Artificially colored.

No. K.-180. Sample of "Pure Concentrated Extract Vandella" from S. D. Guy, Coloma.

Sold (1900) by **Monarch Laboratory, Edgerton, Wis.**

Producer, **Monarch Laboratory, Edgerton, Wis.**

Vanillin	0.150 per cent.
Coumarin	0.161 " "
Coloring matter	Foreign.

An artificial preparation.

No. K.-183. Sample "Cameo Standard Extract Vanilla" from Napp & Gorman, Coldwater.

Sold (1899) by **R. A. Bartley, Toledo, Ohio.**

Producer, **Cameo Mfg. Co., Chicago, Ill.**

Vanillin	0.063 per cent.
Coumarin	0.015 " "
Color	Foreign.

Adulterated with coumarin and artificially colored.

No. K.-184. Sample of "Star Vanilla Flavor Compound" from A. R. Taylor, Quincy.

Sold (1900) by **R. A. Bartley, Toledo, Ohio.**

Producer, **Star Extract Co., Dayton, Ohio.**

Vanillin	0.102 per cent.
Coumarin	0.024 " "
Vanilla resin	None.
Color	Foreign.

An artificial preparation.

No. L.-20. Sample of "Paulin Extract of Vanilla" from R. G. Paulin, Traverse City.

Sold (1900) by **E. J. Gillis, New York.**

Producer, **E. J. Gillis, New York.**

Vanillin	0.071 per cent.
Coumarin	0.008 " "
Vanilla resin	Present.
Organic acids, gums, etc.	"
Color	Natural.

Adulterated with coumarin and package does not bear name and address of the manufacturer.

No. L.-21. Sample of "Paulin Extract of Lemon" from R. G. Paulin, Traverse City.

Sold (1900) by **E. J. Gillis, New York.**

Producer, **E. J. Gillis, New York.**

Oil of lemon .....	.....
Alcohol .....	.....
Coloring matter .....	.....

Package does not bear name and address of the manufacturer.

No. L.-26. Sample of "Vanilla" from E. S. Nobles & Sons, Elk Rapids.

Sold by **Paul Webb, Chicago, Ill.**

Vanillin	0.086 per cent.
Vanilla resin	Trace.
Organic acids, gums, etc.	"
Color	Foreign.

Artificially colored.

No. L.-27. Sample of "Gurney's Standard Tonka Vanilla" from Andrew Jordan, Elk Rapids.

Sold (1900) by Puhl, Webb & Co., Chicago, Ill.

Vanillin	0.023 per cent.
Coumarin	0.098 " "
Vanilla resin	Present.
Organic acids, gums, etc	"
Color	Foreign.

Artificially colored.

JELLY.

No. K.-181. Sample of blackberry jelly from D. Hunt, Benton Harbor.

Sold (1900) by Kidd, Dater & Price Co., Benton Harbor.

Water	22.85 per cent.
Ash	0.56 " "
Reducing sugar before inversion	36.27 " "
Reducing sugar after inversion	57.73 " "
Polarization before inversion	+ 136 degrees.
Polarization after inversion	+ 103 "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

MILK.

No. I.-478. Sample from Charles Boldebuck, Saginaw.

Contains boracic acid.

No. I.-480. Sample from W. B. Hollingworth, Flint.

Contains formaldehyde.

No. I.-481. Sample from Andrew Sproat, Flint.

Contains boracic acid.

No. I.-482. Sample from Wm. D. Dickson, Flint.

Contains formaldehyde.

No. I.-485. Sample from Grove B. Maltby, Flint.

Contains boracic acid.

No. I.-488. Sample from A. & M. Sproat, Flint.

Contains boracic acid.

No. I.-489. Sample from Wm. D. Dickson, Flint.

Contains formaldehyde.

No. I.-490. Sample from Wm. D. Dickson, Flint.

Contains formaldehyde.

No. I.-491. Sample from Lewis Hiller, Flint.

Contains boracic acid.

No. I.-492. Sample from Charles C. Atherton, Flint.

Contains boracic acid.

No. I.-493. Sample from Thos. H. Baker, Flint.

Contains formaldehyde.

No. I.-495. Sample from Reuben N. Pratt, Flint.

Contains formaldehyde.

No. I.-496. Sample from Reuben N. Pratt, Flint.

Contains formaldehyde.

No. I.-497. Sample from Thos. H. Baker, Flint.

Contains formaldehyde.

No. I.-498. Sample from Thos. H. Baker, Flint.

Contains formaldehyde.

No. I.-499. Sample from Louis C. Ketzler, Flint.

Contains formaldehyde.

No. I.-500. Sample from Louis C. Ketzler, Flint.

Contains formaldehyde.

MUSTARD (dry).

No. G.-931. Sample from Orth Grocery Co., Detroit.

Sold (1900) by **Chas. F. Funke & Co., Detroit.**

Ash.....	6.31 per cent.
Wheat starch.....	14.06 " "
Mustard.....	

Adulterated with wheat starch.

No. L.-22. Sample from Jas. Ennest, Williamsburg.

Sold (1899) by **Olney & Judson Grocer Co., Grand Rapids.**

Ash.....	6.48 per cent.
Wheat starch.....	16.54 " "
Mustard.....	

Adulterated with wheat starch.

PEPPER.

No. K.-188. Sample of pepper from G. F. Whitney & Son, Ionia.

Sold (1900) by **Burns, Metzger & Co., Philadelphia, Pa.**

Producer, **Burns, Metzger & Co., Philadelphia, Pa.**

Total ash.....	7.58 per cent.
Sand.....	1.38 " "

Microscopical examination shows presence of foreign starchy matter.

No. K.-190. Sample of "Pure Sing Black Pepper" from Haight & Jepson, Ionia, Mich.

Sold (1900) by **Burns, Metzger & Co., Philadelphia, Pa.**

Producer, **Burns, Metzger & Co., Philadelphia, Pa.**

Total ash.....	6.80 per cent.
Sand.....	1.11 " "

Microscopical examination shows presence of foreign starchy matter.

No. K.-191. Sample of "Pure Pepper" from A. A. Harter, Ionia.
 Sold (1899) by J. E. Burns Spice Co., Philadelphia, Pa.
 Producer, Burns Spice Co., Philadelphia, Pa.

Ash..... 5.92 per cent.

Microscopical examination shows presence of foreign starchy matter.

VINEGAR.

No. G.-924. Sample of cider vinegar from Chas. M. Baumgartner, Bay City.
 Sold (1899) by Dahinden & Gallasch Co., Milwaukee, Wis.
 Producer, Dahinden & Gallasch Co., Milwaukee, Wis.

Specific gravity	1.0179	
Acid, as acetic	4.25	per cent.
To al solids	3.09	" "
Ash	0.38	" "

Not pure cider vinegar.

No. G.-935. Sample from Mrs. Anna Kiely, Roscommon.
 Sold (1900) by Halsted Co., Vassar.
 Producer, Halsted, Vassar.

Specific gravity	1.0145	
Acid, as acetic	3.59	per cent.
To al solids	2.57	" "
Ash	0.36	" "

Below the standard in acid strength.

No. G.-927. Sample of "Pure Apple Vinegar" from Chas. J. Guthard, Detroit.
 Sold (1900) by N. Wohlfeder & Co., Detroit.
 Producer, Geo. D. Waird & Son, Ypsilanti.

Specific gravity	1.0135	
Acid, as acetic	3.79	per cent.
Total solids	2.19	" "
Ash	0.24	" "

Below the standard in acid strength.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour." in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc. or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound."

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two inches in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING.

ELLIOT O. GROSVENOR,	-	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-		DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1188 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

THE USE OF PRESERVATIVES IN MILK.

During the warm months of 1899 an energetic and thorough inspection of the milk supply of Michigan cities and villages was had by this department to ascertain particularly to what extent there existed a practice of using antiseptics for the preservation of milk and cream. The result of this inspection included the examination of over 2,500 samples, and failed to show a single case of the use of preservatives, and certainly indicated a remarkable and happy condition of affairs at that time.

In order that no confusion may arise, it must be borne in mind that this inspection did not include cities like Detroit and Grand Rapids, where local systems of inspection are carried on under the supervision of a city health board. Inspection of this department was confined entirely to cities where no other inspection was practiced or available.

With the coming of warm weather in the spring of the present year, no special attention was paid to this branch of the work, it being assumed that the highly satisfactory condition shown in 1899 might fairly be presumed to exist, at least to an extent, in 1900. In June, however, the department was informed that a traveling agent who represented the producers of milk preservatives was canvassing the Michigan dealers in the interest of the sale of his company's product.

The department dairy inspector was immediately dispatched to the localities where it was claimed such agent had been canvassing, and was instructed to thoroughly investigate the rumored facts and ascertain whether preservatives were being employed in the various cities. The inspector's work in the month of July uncovered one dealer in Saginaw and nine in the city of Flint who were using either boracic acid or formaldehyde in milk delivered to city customers. As soon as possible action was begun against all these dealers, which will be found in detail under the head of "Prosecutions" in this bulletin.

After a determined show of resistance on the part of the defendants, we are pleased to announce that each finally entered a plea of guilty and paid the fine imposed by the court. In each case a fine of \$10 and costs was the penalty, which, to any fair-minded person, seems outrageously out of keeping with the gravity and importance of the offense.

The department, under the present administration, takes the ground that the question of punishment to be meted out to persons convicted of a violation of a criminal statute is primarily the responsibility of the circuit judge or justice of the peace, where the latter have final jurisdiction, and as a question with which the Dairy and Food Commissioner is not concerned. The ferreting out of those who violate the dairy and food laws of Michigan is expressly among his duties. The lodging of a complaint when these laws have been violated is another. The furnishing of all proofs to convict the offender, a third, but when these duties have been fulfilled and a person stands convicted in the courts of this State, the responsibility as well as the authority, it seems, lies with the State's judicial officers.

Therefore, while the department believes that the fine inflicted in the Flint and Saginaw cases is not an instance where the punishment fits the crime, and is far more lenient than the guilty persons should have received, yet no effort was taken to secure a heavier punishment and one more in keeping with the offense.

The investigations during the month of August disclosed the use of boracic acid in milk of two dealers in the city of Sault Ste. Marie and one in the city of Bay City. Prosecutions were immediately begun. As the record shows, one dealer at the Soo has pleaded guilty and paid the fashionable fine of \$10, and the other, after a contest, has been bound over to the circuit court for trial. The examination in the Bay City case, after frequent adjournments at the request of the defense, has been finally set for Monday, October 15th.

During August the published and undisputed statements from the local authorities in the city of Detroit show that a large per cent of Detroit dealers were using formaldehyde in the milk distributed to the homes of that city. Following this statement samples of milk were received at this department's Detroit office, and which on examination almost invariably were found to contain formaldehyde. It was urged as incumbent upon the State Dairy and Food department to expend a fair share of its resources in Detroit, as well as throughout the State, and although a large sum of money is expended every year for the detection and prosecution of violations of the food and dairy laws in Detroit, it was finally thought best to make at least a partial inspection of Detroit's milk supply. Accordingly the inspection was undertaken about the middle of the month, and disclosed the fact that over 75 per cent of the samples procured were found to contain formaldehyde as a preservative. It is possible, of course, that the department's inspectors happened to strike in their inspection just those dealers who were using formaldehyde, and that the per cent shown by this inspection is not a true one when applied to the whole city. But these samples were secured in portions of the city peopled by the best classes, where one would naturally expect pure milk would be obtained if anywhere.

Complaint was immediately lodged against every dealer whose milk contained formaldehyde, or 35 separate and distinct dealers. The department was at once assailed by these dealers through advertisements in the Detroit dailies, denying the charge. The assailants attributed various motives, political and otherwise, for the, to them, unheard of action, and invited the public to attend the police court on the day of examination and witness the vindication of the accused. The day set for examination was September 28th, and after consultation, the attorneys for the defendants stated to the court that they wished to submit certain legal technical objections in these cases, and did not think it advisable to go into the facts upon examination, and that they requested further time in which to prepare their arguments upon the legal technicalities. The court accordingly set Friday, October 5th, for the hearing of arguments upon the alleged questions of law raised by defendants.

In the meantime it is reported that the Detroit board of health, at the first meeting after the complaints were filed against the 35 dealers, instructed their health officer to allow the accused milk dealers access to the board's records in order to prove their innocence of the charges preferred against them by this department.

After looking the ground all over, it is plain that a strong effort has been made during the present summer to introduce and push in Michigan the sale of formaldehyde and boracic acid for use in preserving milk. The department is advised by the best authority in the State that the use of such preservatives in milk is absolutely injurious. Prosecutions of milk dealers brought by this department are for the purpose of killing this practice as soon as possible. Believing that no more despicable proof of the love of gain can be had than is furnished by the introduction into the milk supply of our homes of a poisonous acid preservative, prosecution will be instituted wherever and whenever the necessary proofs can be secured, the sole object being to protect the one and destroy the other.

containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Charles Methler, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Albert Dickinson, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Thomas Morley, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against William Reed, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Albert J. Josiviak, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against John Park, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against John Park, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Sherman Browne, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Charles P. Redcap, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Robert B. Brown, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Joseph Benidit, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Fred Luebs, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Minor G. Betterly, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against John Kelcher, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against John N. Hunter, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against William E. Parmenter, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against William Warren, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court

upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Joseph S. Keller, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against George C. Parke, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against James Parman, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Joseph G  rard, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Michael Schloff, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Richard Bamford, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Charles Bossardet, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Putnam H. Child, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Charles Stevens, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

Complaint was made on the 11th inst., in police court of the city of Detroit, against Albert A. Lefevre, charged with having sold milk containing formaldehyde. Case pending, awaiting decision of the court upon alleged questions of law, which will be argued and submitted on October 5th.

In the case pending in justice court of the city of Flint against William B. Hollingsworth, charged with having sold milk containing formaldehyde, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Andrew Sproat, charged with having sold milk containing boracic acid, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Grove B. Maltby, charged with having sold milk containing boracic acid, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against William D. Dickson, charged with having sold milk containing formaldehyde, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Lewis Hiller, charged with having sold milk containing boracic acid, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Charles C. Atherton, charged with having sold milk containing boracic acid, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Reuben N. Pratt, charged with having sold milk containing formaldehyde, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Thomas H. Baker, charged with having sold milk containing formaldehyde, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in justice court of the city of Flint against Louis C. Ketsler, charged with having sold milk containing formaldehyde, defendant on the 15th inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

In the case pending in police court of the city of Saginaw against Charles Boldebock, charged with having sold milk containing boracic acid, defendant on the 21st inst. entered a plea of guilty to said charge. A fine of \$10 was imposed by the court.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of September:

Mt. Clemens, Detroit, Holland, Saranac, Lowell, Fowler, Pewamo, Thompsonville, Copemish, Sherman, Mesick, Wexford, Monroe Center, Grawn, Cadillac, Yuma, Harrietta, Boone, Cedar, Algonac, Pearl Beach, Fair Haven, Anchorville, New Baltimore, Cady, Fraser, Marine City, St. Clair, Lenox, Richmond, New Haven, Utica Junction, Roseville, Halfway P. O., County Line P. O., Romeo, Troy, Big Beaver, Clawson, Dundee, North Branch, Kings Mills, Lunn, Attica, Inlay City, Burnside, Deanville, Clifford, Spring Lake, Grand Haven, Monroe, Elk Rapids, Alden, Bellaire, Central Lake, Ellsworth, Old Mission, Mapleton, Williamsburg, St. Johns, Traverse City, Laingsburg, Owosso, Ionia, Edmore, Big Rapids, Beaver Island, Millbrook, West Millbrook, Harbor Springs, St. James, Hunters' Creek, Farmers' Creek.

DAIRY INSPECTION:

Report of dairies inspected during the month of September, 1900.

At Flint:

Samuel E. Evans—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well: milk room, neat and clean.

Reuben Pratt—Condition of cows, very good and clean; stables, neat and clean, except some dust and cobwebs on ceiling; feed, pasture; yard, dry and fairly clean; drainage, fair; ventilation, good; water, well.

Wm. McAlister—Condition of cows, very good and clean; feed, pasture and green corn fodder; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to William D. Dickson.

Chas. A. Monish—Condition of cows, very good and clean; feed, clover pasture; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Wm. D. Dickson.

W. J. Adams—Condition of cows, good and clean; feed, pasture; stables, in good condition but not very clean; yard, clean and dry; drainage, good; ventilation, good; water, well and spring creek; sells milk to Wm. D. Dickson.

Dan Gray—Condition of cows, fairly good and clean; feed, pasture; stables, old and rather dirty, some cobwebs on ceilings, floors poor; manure piled against the stable; yard, clean and dry; drainage, good; ventilation, plenty; water, well.

Chas. C. Atherton—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean; uses an aerator.

Thos. H. Baker—Condition of cows, good and clean; feed, pasture, bran, cornmeal and brewery grain; stables, very neat and clean and have cement floors; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean and has cement floors; uses an aerator and separator.

Harry H. Baker—Condition of cows, good and clean; feed, pasture; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; and has cement floor.

William White—Condition of cows, good and clean; feed, pasture, oats and peas and green corn; stables, fairly neat and clean, uses lime on floors; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean.

Lewis Hiller—Condition of cows, good and clean; feed, pasture; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, creek.

Lewis Ketzler—Condition of cows, good and clean; feed, pasture and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, very neat and clean; cement floors; uses an aerator.

H. E. Thayer—Condition of cows, good and clean; feed, good clover pasture; stables, fairly neat and clean, some cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation good; water, well; sells milk to John Crossley.

Mortimer Carter—Condition of cows, good and clean; feed, pasture; Stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well and river; milk room, neat and clean; sells to Grove B. Maltby.

Aitkin & Colby—Condition of cows, good and clean; feed, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well and creek; milk room, small but clean; sells to A. & M. Sprout.

Wm. B. Hollingworth—Condition of cows, good and clean; feed, fine clover pasture; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, very neat and clean; uses an aerator.

At Holly:

Ambrose Shields—Condition of cows, good and clean; feed, pasture and green fodder; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, lake and well; sells milk to Gideon Smith.

Frank H. Wauen—Condition of cows, good and clean; feed, pasture, hay and green corn fodder; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to Gideon Smith.

At Mt. Pleasant:

James Brown—Condition of cows, good and clean; feed, clover pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., September 30, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of September 179 samples of food products have been examined, 124 being pure and 55 adulterated.

R. E. DOOLITTLE

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Cinnamon.....	1	1	0
Coffee.....	6	4	2
Cloves.....	1	0	1
Extracts, Flavoring.....	6	4	2
Jelly.....	2	0	2
Milk.....	151	113	38
Mustard.....	2	1	1
Pepper.....	5	1	4
Vinegar.....	5	0	5
Totals.....	179	124	55

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

COFFEE.

No. L.-6. Sample of "Crushed Java Coffee" from Case Mercantile Co., Benzonia.

Sold (1898) by **Durand & Casper Co., Chicago, Ill.**
 Producer, **Durand & Casper Co., Chicago, Ill.**

Peas and chicory	50.00 per cent.
Coffee	50.00 " "

Adulterated with peas and chicory.

No. L.-10. Sample of "Cracked Roasted Coffee" from H. G. Leonard, South Frankfort.

Sold (1900) by **W. F. McLaughlin & Co., Chicago, Ill.**
 Producer, **W. F. McLaughlin & Co., Chicago, Ill.**

Peas and chicory	30.00 per cent.
Coffee	70.00 " "

Adulterated with peas and chicory.

CLOVES.

No. L.-35. Sample of "Pure Ground Cloves" from Flora Hond, Millbrook.
 Sold (1899) by **H. A. Fisher, Chicago, Ill.**
 Producer, **H. A. Fisher, Chicago, Ill.**

Ash	6.08 per cent.
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Microscopical examination shows presence of foreign starchy matter.

EXTRACTS (Flavoring).

No. G.-934. Sample of "Vanilla and Coumarine" from Mrs. William A. Benton, Roscommon.

Sold (1900) by **Northrop, Robertson & Carrier, Lansing.**
 Producer, **Capital Extract Co., Lansing.**

Vanillin	0.048 per cent.
Coumarin	0.106 " "
Vanilla resin	Present.
Organic acids, gums, etc	"
Color	Foreign.

Artificially colored.

No. L.-33. Sample of "Vanilla" from C. W. Bartin, Big Rapids.
 Sold (1899) by **Puhl-Webb Co., Chicago, Ill.**
 Producer, **Puhl-Webb Co., Chicago, Ill.**

Vanillin	0.474 per cent.
Coumarin	None.
Vanilla resin	"
Organic acids, gums, etc	Trace.

Not a true extract of vanilla bean.

JELLY.

No. L.-8. Sample of "Pure Currant Jelly" from F. M. Stockman, Benzonia.
 Sold (1900) by **W. M. Hoyt, Chicago, Ill.**
 Producer **Chicago Syrup Refining Co., Chicago, Ill.**

Water	26.00 per cent.
Ash	0.50 " "
Reducing sugar before inversion	47.17 " "
Reducing sugar after inversion	64.43 " "
Polarization before inversion	+ 40.8 degrees.
Polarization after inversion	+ 18.7 "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

No. L.-24. Sample of "Red Currant Jelly" from M. B. Lang, Elk Rapids.
 Sold (1899) by **W. M. Hoyt Co., Chicago, Ill.**
 Producer, **Anderson Preserving Co., Camden, N. J.**

Water	31.36 per cent.
Ash	0.42 " "
Reducing sugar before inversion	60.02 " "
Reducing sugar after inversion	62.11 " "
Polarization before inversion	+ 25 degrees.
Polarization after inversion	+ 16.5 "
Starch paste	Present.

Imitation fruit jelly.

MILK.

No. I.-621. Sample from Fred D. Stricker, Detroit.
Contains formaldehyde.

No. I.-622. Sample from Michael Theisen, Detroit.
Contains formaldehyde.

No. I.-623. Sample from Thomas McErlane, Detroit.
Contains formaldehyde.

No. I.-624. Sample from Fred Cobernus, Detroit.
Contains formaldehyde.

No. I.-625. Sample from Louis C. Fritz, Detroit.
Contains formaldehyde.

No. I.-626. Sample from Geo. Lawrence, Detroit.
Contains formaldehyde.

No. I.-628. Sample from Chas. Fick, Detroit.
Contains formaldehyde.

- No. I.-629. Sample from Chas. W. Biske, Detroit.
Contains formaldehyde.
- No. I.-631. Sample from Chas. Methler, Detroit.
Contains formaldehyde.
- No. I.-638. Sample from Albert Dickinson, Detroit.
Contains formaldehyde.
- No. I.-641. Sample from Thomas Morley, Detroit.
Contains formaldehyde.
- No. I.-642. Sample from Wm. Reed, Detroit.
Contains formaldehyde.
- No. I.-645. Sample from Albert J. Josiviak, Detroit.
Contains formaldehyde.
- No. I.-646. Sample from Robert W. Perry, Detroit.
Contains formaldehyde.
- No. I.-648. Sample from John Park, Detroit.
Contains formaldehyde.
- No. I.-651. Sample from Sherman Browne, Detroit.
Contains formaldehyde.
- No. I.-652. Sample from Chas. P. Redcap, Detroit.
Contains formaldehyde.
- No. I.-654. Sample from Robert B. Brown, Detroit.
Contains formaldehyde.
- No. I.-655. Sample from Joseph Beindit, Detroit.
Contains formaldehyde.
- No. I.-657. Sample from Fred Luebs, Detroit.
Contains formaldehyde.
- No. I.-659. Sample from Minor G. Betterly, Detroit.
Contains formaldehyde.
- No. M.-23. Sample from John Kelcher, Detroit.
Contains formaldehyde.
- No. M.-25. Sample from John N. Hunter, Detroit.
Contains formaldehyde.
- No. M.-28. Sample from William E. Parmenter, Detroit.
Contains formaldehyde.
- No. M.-32. Sample from Towar's Wayne County Creamery, Detroit.
Contains formaldehyde.

No. M.-36. Sample from Joseph S. Keller, Detroit.
Contains formaldehyde.

No. M.-39. Sample from George C. Parke, Detroit.
Contains formaldehyde.

No. M.-40. Sample from James Parman, Detroit.
Contains formaldehyde.

No. M.-41. Sample from Gerrard Brothers, Detroit.
Contains formaldehyde.

No. M.-43. Sample from Charles Bossardet, Detroit.
Contains formaldehyde.

No. M.-52. Sample from Michael Schloff, Detroit.
Contains formaldehyde.

No. M.-53. Sample from Richard Bamford, Detroit.
Contains formaldehyde.

No. N.-1. Sample from Putnam H. Child, Detroit.
Contains formaldehyde.

No. N.-4. Sample from Detroit Creamery Co., Detroit.
Contains formaldehyde.

No. N.-7. Sample from Clover Pasteurized Milk Co., Detroit.
Contains formaldehyde.

No. O.-16. Sample from George Watson, Sault Ste. Marie.
Contains boracic acid.

No. O.-17. Sample from George Taylor, Sault Ste. Marie.
Contains boracic acid.

No. O.-34. Sample from George Walther, Bay City.
Contains boracic acid.

MUSTARD (Dry).

No. G.-932. Sample of "Pure Mustard" from Charles F. Funke & Co., Detroit.
Sold (1900) by **Thompson & Taylor Spice Co., Chicago, Ill.**

Ash.....	6.48	per cent.
Starch.....	7.82	" "
Mustard.....		" "

Adulterated with starch.

PEPPER.

No. K.-197. Sample of "Singapore Black Pepper" from Albert Towle, Muskegon.
Sold (1900) by **Burns, Metzger & Co., Philadelphia, Pa.**

Producer, **Burns, Metzger & Co., Philadelphia, Pa.**

Ash..... 4.12 per cent.

Microscopical examination shows presence of foreign starchy matter.

No. L.-30. Sample of pepper from Russ & Gale, Big Rapids.

Ash..... 3.79 per cent.

Microscopical examination shows presence of wheat, buckwheat and cayenne pepper.

No. L.-31. Sample of pepper from F. M. McLaughlin, Big Rapids.

Sold by **The Russ Co., South Bend, Ind.**

Producer, **The Russ Co., South Bend, Ind.**

Ash..... 3.69 per cent.

Microscopical examination shows presence of wheat, buckwheat and cayenne pepper.

No. P.-4. Sample of "St. Joe Pepper" from F. A. Wickens, Clyde.

Sold (1900).

Producer, **The Russ Co., South Bend, Ind.**

Ash..... 3.54 per cent.

Microscopical examination shows presence of rice, wheat, cayenne pepper and pepper hulls.

VINEGAR.

No. G.-910. Sample of cider vinegar from Chas. Molitor, Detroit.

Sold (1900) by **Carl Weise, Detroit.**

Producers, **Williams Bros. & Charbonneau, Detroit.**

Specific gravity	1.0180		
Acid, as acetic	4.25	per cent.	
Total solids	2.60	"	"
Ash	0.28	"	"

An examination of solids and ash shows that sample is not pure cider vinegar.

No. G.-914. Sample of cider vinegar from Anna Koenig, Detroit.

Sold (1900) by **Williams Bros. & Charbonneau, Detroit.**

Producer, **Williams Bros. & Charbonneau, Detroit.**

Specific gravity	1.0160		
Acid, as acetic	4.03	per cent.	
Total solids	2.51	"	"
Ash	0.27	"	"

An examination of solids and ash shows that sample is not pure cider vinegar.

No. G.-921. Sample of cider vinegar from Isaac Van Duser, Bay City.

Sold (1900) by **H. E. Meeker & Co., Bay City.**

Producer, **Watson & Gordon Vinegar Co., Detroit.**

Specific gravity	1.0139		
Acid, as acetic	4.05	per cent.	
Total solids	2.25	"	"
Ash	0.30	"	"

An examination of solids and ash shows that sample is not pure cider vinegar.

No. K-182. Sample of cider vinegar from John C. Thoms, Three Rivers.

Sold (1900) by **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Producer, **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Specific gravity	1.0182
Acid, as acetic.....	3.84 per cent.
Total solids	2.70 " "
Ash	0.27 " "

Below standard in acid strength and an examination of solids and ash shows sample is not pure cider vinegar.

No. P-2. Sample of cider vinegar from Marshall Bros., Oxford.

Sold (1900) by **Moran, Fitzsimmons Co., Detroit.**

Producer, **Geo. Wiard, Ypsilanti.**

Specific gravity	1.0128
Acid, as acetic.....	3.79 per cent.
Totals solids.....	1.95 " "
Ash	0.23 " "

Below the standard in acid strength and ash.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound."

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING

ELLIOT O. GROSVENOR,	-	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-		DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	STATE ANALYST

BRANCH OFFICE

1133 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

PRESENT STATUS OF THE MILK PROSECUTIONS.

All of the cases pending in the police court of the city of Detroit, in which defendants were charged with selling milk containing formaldehyde, came up for examination in said court during the current month. Alleged questions of law raised by the defendants were argued and submitted on the 5th inst. On the 9th inst., the court overruled defendant's motion to quash the complaints made by this department. Thirty-one of the defendants were bound over to the November term of the recorder's court of the city of Detroit for trial, bail being fixed at \$500 in each case, and one defendant was discharged on a technicality.

Of the thirteen prosecutions instituted in the State outside of the city of Detroit, eleven have been finally disposed of, the defendants in each instance being convicted. Two cases are yet pending: one in the circuit court for the county of Chippewa, and one in the police court of the city of Bay City.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900.....	18
Cases commenced since said date.....	32

CASES DISPOSED OF.

Before Examining Magistrates....	35	{	Defendants bound over to trial courts	34
		{	Defendants discharged on examination.	1
In Trial Courts.....	12	{	Defendants convicted.....	12
		{	Defendants acquitted.....	0
Cases pending Nov 1, 1900.....				57

PROCEEDINGS HAD DURING MONTH OF OCTOBER, 1900.

Complaint was made on the 15th inst., in the police court of the city of Detroit, against Towars' Wayne County Creamery, a corporation, and George W. Towar, president, and Frank J. Towar, secretary thereof, defendants being charged with having sold milk containing formaldehyde. On the 30th inst. defendants waived examination and were bound over to the recorder's court of the city of Detroit for trial.

In the cases pending in the police court of the city of Detroit against 31 milk dealers charged with having sold milk containing formaldehyde, the court, on the 9th inst., overruled the defendants' motion to quash the complaints made in said cases. Thereupon, the following defendants waived examination and were bound over to the recorder's court of the city of Detroit for trial, viz.: Fred D. Stricker, Michael Thiesen, Thomas McErlane, Louis C. Fritz, George Lawrence, Charles Fick, Charles W. Biske, Albert Dickinson, Thomas Morley, John Park, Sherman Browne, Robert B. Brown, William E. Parmenter, William Warren, George C. Parke, Joseph Gerrard, Michael Schloff, Richard Bamford, Charles Bosserdet, Putnam H. Child, Charles Stevens, Albert A. Lefevre, Fred Leubs, Joseph S. Keller. The examinations in the remaining seven cases were held in said court on the 12th inst. Charles Methler, Albert J. Josiviak, Robert Perry, Charles P. Redcap, Joseph Beindit and Minor G. Betterly were bound over to the recorder's court of the city of Detroit for trial; William Reed was discharged.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of October:

Fife Lake, Stanton, Edmore, Big Rapids, Sutton's Bay, Manton, Kalkaska, Mancelona, Antrim, South Boardman, Tuscola, Vassar, Millington, Alva, Mayville, Richville, Reese, Gilford, Akron, Fairgrove, Watrousville, Caro, Gardendale, North Street, Silverwood, Fostoria, Juniata, Frankfort, Benzonia, Traverse City, Central Lake, Charlevoix, Norwood, East Jordan, South Arm, Holland, Bangor, Hartford, Benton Harbor, Niles, Buchanan, Cassopolis, Mendon, Snover, Elmer, Sanilac Center, Minden City, Charleston, Forestville, Palms, Bridgehampton, McGregor, Downington, Deckerville, Vicksburg, Marshall, Homer, Cedardale, Mills, Richmondville, Forester, Port Sanilac, Carsonville, Applegate, Cash, Watertown, North Buel, Buel, Otto, Lexington, Croswell, Zion, Aitkins, Blaine, Blaine Center, Jeddo, Amadore, East Greenwood, Fargo, Melville, Valley Center, Omard, Peck, Speaker, Roseburgh, Marlette, Brown City, Yale, Brockway, Avoca, Emmett, Wales Center, Goodells, Thornton, Kimball, Burns, Rattle Run, Smith Creek, Marysville, Chesterfield, Waldenburg, Utica, Milton, Macomb, Washington, Disco, Davis, Armada, Adair, Memphis, Omo, Meade, Ray Center, Berville, Smiths, Capac, Detroit, Mt. Clemens.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of October, 1900:

At St. Clair:

C. F. Moore—Condition of cows, very fine and clean; feed, pasture, oat and pea hay, ensilage and bran; stables, very neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, city; uses an aerator; sells milk to J. F. Ruff.

Mrs. M. Pringle—Condition of cows, good and clean; feed, pasture and shorts; stables, fairly neat and clean; drainage, good; ventilation, fair; water, well.

Geo. C. Barron—Condition of cows, very good and clean; feed, ensilage and clover pasture; stables, generally clean, except ceiling being partly open and dusty; yard, clean and dry; drainage, good; ventilation, good; water, river.

At Marine City:

John A. McDonald—Condition of cows, good and clean; feed, pasture and oats; stables, old, but fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, river.

Eber Stevenson—Runs a creamery and milk wagon; creamery very neat and clean; buys all his milk.

Schriner Bros.—Run a creamery and milk wagon; creamery neat and clean; buy all their milk.

Mrs. D. Lester—Condition of cows, good and clean; feed, pasture, corn fodder, ground wheat and oats; stables, clean and nicely white-washed; yard, clean and dry; drainage, good; ventilation, good; water, city; sells milk to Alfred H. Cottrill.

John Bower—Condition of cows, good and clean; feed, clover, pasture; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, city.

At Algonac:

W. D. Richardson—Condition of cows, fairly good and clean; feed, pasture; stables, old and poor; yard, clean and dry; drainage, good; ventilation, good; water, creek.

At Mt. Clemens:

Edward Moser—Condition of cows, good and clean; feed, pasture and malt; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, river.

Theodore—Condition of cows, good and clean; feed, clover, pasture, fodder corn and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Frank J. Hacker—Condition of cows, good and clean; feed, clover, pasture and fodder corn; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, neat and clean.

Wm. Jenney—Condition of cows, very good and clean; feed, pasture and fodder corn; stables, fairly neat and clean, dust and cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, river; sells milk to F. J. Hacker.

Wm. P. Rosso—Condition of cows, very good and clean; feed, clover, pasture and fodder corn; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring.

Henry Wolf—Condition of cows, good and clean; feed, pasture and fodder corn; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, river; sells milk to Deneweth Bros.

Deneweth Bros.—Condition of cows, fairly good and clean; feed, fodder corn and pasture; stables, fairly good and clean; some dust and cobwebs on ceiling; yard, clean, but very poor drainage; ventilation, fair; water, river.

Alfred W. Little—Condition of cows, very good and clean; feed, pasture and fodder corn; stables, fairly neat and clean; some dust and cobwebs on ceiling; yard, clean and fairly dry; drainage, fair; ventilation, good; water, well.

Fred Glaesner—Condition of cows, good and clean; feed, pasture, fodder corn, cabbage and malt; stables, fairly neat and clean, some dust and cobwebs on ceilings; yard, fairly clean and dry; drainage, fair; ventilation, fairly good; water, well; milk room, neat and clean.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., October 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of October 39 samples of food products have been examined, 25 being pure and 14 adulterated.

R. E. DOOLITTLE

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Baking powder	1	1	0
Bread	1	1	0
Catsup	1	1	0
Cinnamon	1	1	0
Cream of tartar	2	0	2
Extracts	5	1	4
Honey	1	1	0
Jelly	3	0	3
Lemonade	1	1	0
Maple syrup	2	2	0
Milk	8	7	1
Milk—condensed	2	2	0
Mustard—dry	2	1	1
Pepper	3	3	0
Syrup	2	0	2
Vinegar	4	3	1
Totals	39	25	14

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

CREAM OF TARTAR.

No. G-944. Sample of cream of tartar from R. L. Ruhl & Co., Detroit.
Sold (1900) by **American Tartar Co., Albany, N. Y.**

Cream of tartar.....	30.20 per cent.
Corn starch.....	17.58 " "
Acid phosphate of lime.....	11.25 " "
Sulphate of lime.....	34.03 " "
Water.....	16.94 " "

Adulterated with corn starch, acid phosphate and sulphate of lime.

No. K-207. Sample of "99% Cream of Tartar" from Peter E. Nysewander, Cassopolis.

Sold (1900) by **Riddell Grocery Co., South Bend, Ind.**

Producer, California Tartar Co., San Francisco, Cal.

Cream of tartar.....	None.
Corn starch.....	26.80 per cent.
Acid phosphate of lime.....	15.77 " "
Alum.....	46.34 " "
Water.....	11.09 " "

A mixture of corn starch, acid phosphate of lime and alum.

EXTRACTS (Flavoring).

No. G-926. Sample of "Pineapple" from G. & R. McMillan, Detroit.

Solid extract.....	0.03 Per cent.
Compound ethers.....	
Alcohol.....	
Coloring matter.....	

An artificial preparation.

No. G-945. Sample of "Vanilla Extract" from R. L. Ruhl & Co., Detroit.
Sold (1900) by **Michigan Extract Co., Detroit.**

Producers, Michigan Extract Co., Detroit.

Vanillin.....	0.203 per cent.
Coumarin.....	0.197 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	None.
Color.....	Foreign.

An artificial preparation.

No. K-203. Sample of "Essence of Vanilla" from consumer, Muskegon.
 Sold (1900) by **Dr. J. B. Lynas & Son, Logansport, Ind.**
 Producer, **Dr. J. B. Lynas & Son, Logansport, Ind.**

Vanillin.....	0.132 per cent.
Coumarin.....	0.008 " "
Color.....	Foreign.

Adulterated with coumarin and artificially colored.

No P-12. Sample of "Dieter's Double Vanilla Flavoring," from Rudolph Friday, New Baltimore.

Sold (1900) by **J. P. Dieter & Co., Chicago, Ill.**

Producer, **J. P. Dieter & Co., Chicago, Ill.**

Vanillin.....	0.033 per cent.
Coumarin.....	None.
Vanilla resin.....	Trace.
Color.....	Foreign.

Contains foreign coloring matter.

JELLY.

No. G-942. Sample of "Imitation Jelly, Currant Jelly, Flavored" from Egbert H. Cooper, Detroit.

Sold (1900) by **Bruce & West Manufacturing Co., Cleveland, Ohio.**

Producer **Wooster Preserving Co., Wooster, Ohio.**

Water.....	46.20 per cent.
Ash.....	0.84 " "
Reducing sugar before inversion.....	29.65 " "
Reducing sugar after inversion.....	32.04 " "
Polarization before inversion.....	+87 degrees.
Polarization after inversion.....	+82 " "
Starch.....	Present.
Color.....	Artificial.

Imitation fruit jelly artificially colored.

No. G-943. Sample of "Sugar Jelly" from Fred D. Sheill, Detroit.

Sold (1900) by **W. E. Heames & Co., Detroit.**

Water.....	28.46 per cent.
Ash.....	0.41 " "
Reducing sugar before inversion.....	38.46 " "
Reducing sugar after inversion.....	52.88 " "
Polarization before inversion.....	+80 degrees.
Polarization after inversion.....	+60 " "
Starch.....	Present.
Color.....	Natural.

Imitation fruit jelly.

No. L-29. Sample of "Quince Flavor Jelly" from W. J. Clark & Son, Harbor Springs.

Sold (1900) by **Lutz, Schram & Co., Alleghaney, Pa.**

Producer, **Lutz, Schram & Co., Alleghaney, Pa.**

Water.....	32.30 per cent.
Ash.....	0.71 " "
Reducing sugar before inversion.....	32.05 " "
Reducing sugar after inversion.....	52.90 " "
Polarization before inversion.....	+66 degrees.
Polarization after inversion.....	+35.4 " "
Starch paste.....	Present.

Imitation fruit jelly.

MILK.

No. M-56. Sample of Milk from Children's Free Hospital, Detroit.

Sold by Towar's Wayne County Creamery, Detroit.

Contains formaldehyde.

MUSTARD.

No. L-49. Sample of "Lok Mustard" from Wisler & Co., Mancelona.

Sold (1899) by E. W. Gillett, Chicago, Ill.

Producer, E. W. Gillett, Chicago, Ill.

Ash	6.19	per cent.
Wheat starch.	2.81	" "
Mustard		

Adulterated with wheat starch.

SYRUP.

No. K-204. Sample of "Kairomel Brand, Corn Syrup" from Wm. Botsford & Co., Holland.

Sold (1900) by B. Desenburg & Co., Kalamazoo.

Producer, The Glucose Sugar Refining Co., Chicago, Ill.

Water	26.11	per cent
Ash	0.98	" "
Reducing sugar before inversion	39.84	" "
" after "	44.00	" "
Polarization before "	+149	degrees.
" after "	+189	" "

A glucose mixture.

No. L-47. Sample of "Kairomel Brand, Corn Syrup" from Geo. M. Brooks & Co., Manton.

Sold (1900) by Musselman Grocery Co., Grand Rapids.

Producer, Glucose Sugar Refining Co., Chicago, Ill.

Water	26.11	per cent.
Ash	0.98	" "
Reducing sugar before inversion	39.84	" "
" after "	44.00	" "
Polarization before "	+149	degrees.
" after "	+189	" "

A glucose mixture.

VINEGAR.

No. L-39. Sample of "Pure Cider Vinegar" from Andrew Jordon, Elk Rapids.

Sold (1900) by M. Merriam, Collins & Dexter, Chicago, Ill.

Producer, J. S. Conner, Madison Co., N. Y.

Specific gravity	1.0162	
Acid, as acetic	4.00	per cent.
Total solids	2.73	" "
Ash	0.27	" "

Analysis of solids shows presence of small amount of glucose.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound,"

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOUR.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

ELLIOT O. GROSVENOR,	-	-	-	-	-	COMMISSIONER
W. H. TUNNICLIFFE,	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	STATE ANALYST

BRANCH OFFICE
1188 Majestic Building, Detroit

STATE OF MICHIGAN.

DAIRY AND FOOD. DEPARTMENT.

Some time ago the Department, in its Bulletin, called the public's attention to the question of purchasing food products from house to house or itinerate dealers, who take orders direct from the consumer and afterwards ship the goods from points outside the State.

During the current month the Department investigated a large quantity of groceries sold and consigned directly to consumers in Leelanau county, and as a result three complaints were made against one Norman B. Leslie, of Chicago, charging him with having sold adulterated cinnamon, pepper and syrup. Defendant was arrested and upon waiving examination was bound over to the circuit court for the county of Leelanau for trial

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900.....	18
Cases commenced since said date	53

CASES DISPOSED OF.

Before Examining Magistrates... 39	{ Defendants bound over to trial courts...	83
	{ Defendants discharged on examination..	1
In Trial Courts..... 18	{ Defendants convicted.....	13
	{ Defendants acquitted.....	0
Cases pending December 1, 1900.....		57

PROCEEDINGS HAD DURING MONTH OF NOVEMBER, 1900.

Complaint was made on the 17th inst., in justice court of the city of Coldwater, against William Curtis, representing R. A. Bartley, of Toledo, Ohio, charged with having sold adulterated extract of vanilla. On the 26th inst. defendant waived examination and was bound over to the circuit court for the county of Branch for trial.

Complaint was made on the 28th inst., in justice court of the village of Omer, against John Buffman, representing Berdan & Company, of Toledo, Ohio, charged with having sold imitation fruit jelly improperly labeled. Examination set for December 10th.

Complaint was made on the 28th inst., in justice court of the village of Northport, against Norman B. Leslie, of Chicago, Ills., charged with having sold adulterated pepper. Defendant waived examination and was bound over to the circuit court for the county of Leelanau for trial.

Complaint was made on the 28th inst., in justice court of the village of Northport, against Norman B. Leslie, of Chicago, Ills., charged with having sold adulterated cinnamon. Defendant waived examination and was bound over to the circuit court for the county of Leelanau for trial.

Complaint was made on the 28th inst., in justice court of the village of Northport, against Norman B. Leslie, of Chicago, Ills., charged with having sold a glucose mixture improperly labeled. Defendant waived examination and was bound over to the circuit court for the county of Leelanau for trial.

The case pending in the circuit court for the county of Benzie against W. H. Martineau, representing W. F. McLaughlin & Co., of Chicago, Ills., charged with having sold adulterated coffee, came up for trial in said court on the 20th inst. Defendant entered a plea of guilty. A fine of \$30 was imposed by the court.

INSPECTIONS.

The following places were visited by the Department's inspection force during the month of October:

Linkville, Rescue, Berne, Caseville, Gotts, Pinnebog, Soule, Elkton, Bad Axe, Verona Mills, Repson, Redman, Kinde, Filion, Clark Siding, Grassmere, Wadsworth, Ubly, Ruth, Parisville, Pigeon, Owendale, Kilmanagh, Bay Port, Ludington, Scottville, Manistee, Muskegon, Laing, Shabona, Argyle, Wickware, Cumber, Freiburg, Tyre, Banner, Cass City, Deford, Kingston, Wilmont, Greenleaf, Gagetown, Unionville, Columbia, Colwood, Sebewaing, Detroit.

DAIRY INSPECTION.

Report of dairies inspected during the month of November, 1900:

At Reading:

Chas. Wallen—Condition of cows, good; feed, fodder, corn and chops; stables, dirty and dark; yard, muddy and filthy; ventilation, none; water, well.

A. A. Berry—Condition of cows, good; feed, hay and chops; stables, clean; yard, sanitary; ventilation, good; water, well.

At Hillsdale:

Herbert Decker—Condition of cows, fair; feed, bran and clover hay; stables, dirty; yard, filthy; ventilation, none; water, city and spring.

John Morgan—Condition of cows, good; feed, corn fodder and bran; stables, clean; yard, sanitary; ventilation, good; water, well.

Michael Kane—Condition of cows, good; feed, fodder corn, bran and cornmeal; stables, clean; yard, well drained; ventilation good; water, well.

At Adrian:

J. E. Dawson—Condition of cows, good; feed, ensilage, bran and chop; stables, clean; yard, sanitary; ventilation, good; water, spring.

M. A. S. Hamilton—Condition of cows, good; feed, corn fodder, bran and ear corn; stables, light, clean and warm; yard sanitary; ventilation, good; water, well.

John A. Townsend—Condition of cows, very good; feed, bran and fodder corn; stables, floors clean, open scaffolding; yard, muddy; ventilation, good; water, well.

Frank Hough—Condition of cows, good; feed, bran and cornmeal, fodder; yard, sanitary; ventilation, good; water, city.

S. S. Hoag—Condition of cows, good; feed, chop, bran, fodder; stables, clean, light; yard, muddy; ventilation good; water, well.

Baldwin Bros.—Condition of cows, good; feed, ensilage, shredded fodder, bran; stables, clean and whitewashed; yard, clean; ventilation, good; water, well.

Teachout's Dairy—Condition of cows, good; feed, ensilage, fodder corn, hay; stables, clean, cement floor; yard, sanitary; ventilation, good; water, well.

James Helme—Condition of cows, good; feed, ensilage, bran, cotton seed meal; stables, clean; yard, muddy; water, city.

At Union City:

Henry A. Towsley—Condition of cows, good; feed, hay, corn fodder, pumpkin; stables, clean; yard, sanitary; ventilation, good; water, well.

Bostwick—Condition of cows, good; feed, corn fodder, chop and pasture; stables, low, dark, dirty; yard, well drained; ventilation, poor; water, well.

At Three Rivers:

Samuel S. Reed—Condition of cows, good; feed, ensilage; stables, clean; yard, sanitary; ventilation, good; water, well.

H. M. Knapp & Son—Condition of cows, good; feed, pasture, fodder corn; stables, dark, dirty; yard, clean, sanitary; ventilation, none; water, well.

Fred Keller—Condition of cows, good; feed, bran, beets, fodder corn; stables, clean; yard, clean, well drained; ventilation, good; water, well.

Norman—Condition of cows, good; feed, pasture, fodder corn; stables, neat and clean; yard, sanitary; ventilation, good; water, well.

At Cassopolis:

John Norton—Condition of cows, good; feed, pasture, fodder corn; stables, dirty; yard, filthy, unsanitary; ventilation, none; water, well.

Geo. Miller—Condition of cows, good; feed, cut hay and bran; stables, low, dark, dirty; yard, clean and well drained; ventilation, poor; water, well.

At Kalamazoo:

W. K. Lacey—Condition of cows, good; feed, ensilage; stables, clean, light; yard, clean, sanitary; ventilation, very good.

John Denbleyker—Condition of cows, good; feed, pasture, fodder corn, bran; stables, clean, light, whitewashed; yard, sanitary; ventilation, good; water, well.

L. A. Olmstead—Condition of cows, clean, healthy; feed, pasture, bran; stables, clean; yard, sanitary; ventilation, good; water, well.

Isaac Bure—Condition of cows, good; feed, pasture, corn fodder; stables, unclean; yard, dirty, but well drained; water, well.

D. D. Streeter—Condition of cows, good; feed, ensilage and beet pulp; stables, clean, whitewashed, light; ventilation, good; water, well.

G. S. Vosler—Condition of cows, good; feed, pasture, fodder corn; stables, clean and whitewashed; yard, clean, well drained; ventilation, good; water, well.

At Allegan:

James Brown—Condition of cows, good; feed, bran and pasture; stables, dirty; yard, sanitary; water, well.

E. A. Rockwell—Condition of cows, good; feed, pasture, bran; stables, dirty, open scaffolding; yard, well drained and clean; water, well; bottling room, very neat, cement floor and submerged cooler.

At Benton Harbor:

J. G. Clawson—Condition of cows, fine; feed, ensilage and bran; stables, clean and neat; yard, well drained; water, well.

Andrew Peters—Condition of cows, good; feed, pasture; stables, dirty; yard, clean, well drained; water, well.

B. T. Sells—Condition of cows, good; feed, bran and middlings; stables, dirty, cobwebs, open scaffolding; yard, unsanitary; ventilation, poor; water, well.

J. H. Munger—Condition of cows, good; feed, corn and oats chop and bran; stables, clean; yard, sanitary; water, well.

At St. Joseph:

Mrs. K. Vanbrunt—Condition of cows, good; stables, filthy; yard, muddy and filthy; water, well.

Frank Foster—Condition of cows, very good; feed, pasture, ensilage; stables, clean, open scaffolding; yard, clean, well drained; ventilation, good; water, well.

Fayette Bort—Condition of cows, thin; stables, dirty; feed, marsh pasture; yard, unsanitary, water, well and spring.

A. Berelsey—Condition of cows, good; feed, pasture and bran; stables, dirty; yard, well drained, sanitary; water, well.

Geo. E. Smith—Condition of cows, good; feed, ensilage, bran, gluten meal; stables, clean, light; yard, clean, well drained, sanitary; ventilation, good; water, well.

Seely McCords—Condition of cows, good; feed, ensilage; stables, dirty; yard, unsanitary; ventilation, poor; water, well.

Henry Munger—Condition of cows, fair; feed, pasture and bran; stables, clean and neat; yard, well drained.

At Monroe:

Henry Schneurstein—Condition of cows, good; feed, hay, bran and pasture; stables, clean, light; yard, sanitary; ventilation, good; water, city.

John Wahl—Condition of cows, good; feed, bran, malt, hay, gluten meal, pasture and damaged grain from elevator fire; stables, clean; yard, well drained and clean; ventilation, good; water, river and well.

Mrs. H. E. Peters—Condition of cows, fair; feed, clover hay, pasture and bran; stables, fair; ventilation, good; water, city.

At Summerfield Tp.:

Ezra L. Lockwood—Condition of cows, good; feed, pasture and fodder corn; stables, clean; yard, dry, well drained; water, well.

Geo. Peters & Sons—Condition of cows, fine; feed, ensilage and meal; stables, very clean, light and airy and provided with screens to exclude flies; yard, clean, well drained; ventilation, good; water, well.

At Niles:

Ballard Bros.—Condition of cows, good; feed, pasture, fodder corn and bran; stables, clean; yard, dirty; ventilation, good; water, well.

Oscar Wyant—Condition of cows, good; feed, bran and pasture; yard, clean and well drained; ventilation, good; water, spring.

Howard Young—Condition of cows, in good flesh, but very dirty; feed, pasture and ear corn; yard, dirty, drainage, poor; ventilation, poor; water, spring.

M. E. Harger—Condition of cows, fair; feed, bran and whole corn; stables, floors clean, open scaffolding; yard, clean, well drained; water, city.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., November 30, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of November 50 samples of food products have been examined, 33 being pure and 17 adulterated.

R. E. DOOLITTLE

State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Cream of tartar.....	2	0	2
Extracts—flavoring.....	2	0	2
Gum—chewing.....	17	17	0
Jelly.....	1	0	1
Lard.....	1	1	0
Milk condensed.....	5	5	0
Mustard.....	1	0	1
Peas—canned.....	1	1	0
Pepper.....	5	2	3
Preserves.....	6	6	0
Syrup.....	2	0	2
Vinegar.....	7	1	6
Totals.....	50	33	17

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

CREAM OF TARTAR.

No. G-955. Sample of cream of tartar from James I. Goodwin, Detroit.

Sold (1900) by **American Tartar Co., Albany, N. Y.**

Producer, **American Tartar Co., Albany, N. Y.**

Cream of tartar.....	22.68 per cent.
Corn starch.....	14.06 " "
Acid phosphate of lime.....	10.94 " "
Sulphate of lime.....	31.56 " "
Water.....	20.76 " "

Adulterated with corn starch, acid phosphate and sulphate of lime.

No. G-956. Sample of cream of tartar from James I. Goodwin, Detroit.

Sold (1900) by **American Tartar Co., Albany, N. Y.**

Producer, **American Tartar Co., Albany, N. Y.**

Cream of tartar.....	33.19 per cent.
Corn starch.....	12.80 " "
Acid phosphate of lime.....	7.30 " "
Sulphate of lime.....	31.66 " "
Water.....	15.05 " "

Adulterated with corn starch, acid phosphate and sulphate of lime.

EXTRACTS (flavoring).

No. G-940. Sample of "Extracts of Vanillin and Coumarine," from Little & Epley, Mt. Clemens.

Sold (1900) by **Phelps, Brace & Co., Detroit.**

Producer, **Huron Mfg. Co., Detroit.**

Vanillin.....	0.019 per cent.
Coumarin.....	0.046 " "
Vanilla resin.....	None.
Organic acids, gums, etc.....	Present.
Color.....	Foreign.

An artificial preparation.

No. K-196. Sample of "Extract of Vanalena," from J. W. Gleason, Laingsburg.

Sold (1900) by **Northrop, Robertson & Carrier, Lansing.**

Producer, **Northrop, Robertson & Carrier, Lansing.**

Vanillin.....	0.070 per cent.
Coumarin.....	0.180 " "
Vanilla resin.....	Present.
Organic acids, gums, etc.....	Present.
Color.....	Foreign.

Not an extract.

JELLY.

No. G-953. Sample of "Imitation Fruit Jelly," from Emil F. Gatska, Detroit.
 Sold (1900) by **A. B. Campbell, Detroit.**
 Producer, **Williams Bros. & Charbonneau, Detroit.**

Water.....	35.00 per cent.
Ash.....	0.69 " "
Reducing sugar before inversion.....	39.34 " "
Reducing sugar after inversion.....	41.42 " "
Polarization before inversion.....	+127 degrees.
Polarization after inversion.....	+121 degrees.
Starch.....	Present,
Color.....	Artificial.

Artificially colored.

MUSTARD.

No. L-55. Sample of mustard from East Jordan Lumber Co., East Jordan.

Ash.....	4.76 per cent.
Corn starch.....	10.45 " "
Mustard.....	

Adulterated with corn starch.

SYRUP.

No. L-50. Sample of "Honey Drips Fancy Table Syrup" from E. R. Dailey Co., Sutton's Bay.

Sold (1900) by **Franklin MacVeagh & Co., Chicago, Ill.**
 Producer, **Franklin MacVeagh & Co., Chicago, Ill.**

Water.....	26.89 per cent.
Ash.....	0.45 " "
Reducing sugar before inversion.....	33.11 " "
Reducing sugar after inversion.....	36.41 " "
Polarization before inversion.....	+148 degrees.
Polarization after inversion.....	+145.2 degrees.

Glucose mixture.

No. L-58. Sample of "Glucose Mixture Syrup" from D. J. Prosser, Charlevoix.

Sold (1900) by **Petoskey Grocery Co., Petoskey.**
 Producer, **The Glucose Sugar Refining Co., Davenport, Ia.**

Water.....	26.00 per cent.
Ash.....	0.90 " "
Reducing sugar before inversion.....	39.40 " "
Reducing sugar after inversion.....	44.48 " "
Polarization before inversion.....	+149 degrees.
Polarization after inversion.....	+139.4 degrees.

Glucose mixture.

PEPPER.

No. K-202. Sample of pepper from William & T. Baker, Grand Haven.

Sold (1899) by **J. H. Conrad & Co., Chicago, Ill.**

Total ash.....	10.38 per cent.
Sand.....	2.73 " "
Starch.....	29.90 " "

Contains an excessive amount of sand.

No. L-46. Sample of pepper from H. O. Miner, Yuma.

Sold (1900) by **Berdan & Co., Toledo, Ohio.**

Total ash.....	7.62 per cent.
Sand.....	2.02 " "
Starch.....	20.90 " "

Contains an excessive amount of sand.

No. L-48. Sample of pepper from C. B. Bailey, Manton.

Sold (1900) by **Clark-Jewell-Wells & Co., Grand Rapids.**

Total ash.....	9.80 per cent.
Sand.....	3.29 " "
Starch.....	23.44 " "

Contains an excessive amount of sand.

VINEGAR.

No. G-957. Sample of "Spirit Vinegar" from David Linn, Detroit.

Sold (1900) by **Ward L. Andrus & Co., Detroit.**

Producer, **Red Cross Vinegar Co., St. Louis, Mo.**

Specific gravity.....	1.0053
Acid, as acetic.....	3.84 per cent.
Total solids.....	0.18 " "
Ash.....	0.001 " "

Distilled vinegar below the standard in acid strength.

No. K-194. Sample of cider vinegar from F. A. Percy, St. Johns.

Sold (1900) by **Phelps, Brace & Co., Detroit.**

Producer, **Watson & Gordon Vinegar Co., Detroit.**

Specific gravity.....	1.0133
Acid as acetic.....	3.72 per cent.
Total solids.....	2.83 " "
Ash.....	0.35 " "

Below the standard in acid strength.

No. P-7. Sample of cider vinegar from Roy Lauer, Monroe.

Sold (1900) by **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Producer, **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Specific gravity.....	1.0126
Acid, as acetic.....	3.89 per cent.
Total solids.....	2.01 " "
Ash.....	0.25 " "

Below the standard in acid strength.

No. P-8. Sample of cider vinegar from Mrs. A. Daiber, Monroe.

Sold (1900) by **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Producer, **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Specific gravity.....	1.0126
Acid, as acetic.....	3.89 per cent.
Total solids.....	2.02 " "
Ash.....	0.25 " "

Below the standard in acid strength.

No. P-9. Sample of cider vinegar from Jacob Herman, Monroe.

Sold (1900) by **Leroux Cider & Vinegar Co., Toledo, Ohio.**
 Producer, **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Specific gravity.....	1.0129
Acid, as acetic.....	3.91 per cent.
Total solids.....	2.34 " "
Ash.....	0.29 " "

Below the standard in acid strength.

No. P-10. Sample of cider vinegar from A. E. Cicotte, Monroe.

Sold (1900) by **The Leroux Cider & Vinegar Co., Toledo, Ohio.**
 Producer, **The Leroux Cider & Vinegar Co., Toledo, Ohio.**

Specific gravity.....	1.0136
Acid, as acetic.....	3.89 per cent.
Total solids.....	1.85 " "
Ash.....	0.29 " "

Below the standard in acid strength.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound."

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line-pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FABINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc, it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

1901
WYNKOOP HALLENBECK CRAWFORD CO. OF LANSING, MICH.
STATE PRINTERS

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

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W. H. TUNNICLIFFE,	-	-	-	-	-	DEPUTY COMMISSIONER
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BRANCH OFFICE
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STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

As this issue of the Bulletin completes the term for which the present Commissioner was appointed, it may not be out of place to briefly review the Department's operations under the administration about to close.

INSPECTIONS.

The system of inspections established has proven a marked success. The condition of every stock inspected is reported to the office, the adulterated or misbranded goods found and condemned being given in detail. By this method each dealer receives what might be termed a rating, he is thus brought in close touch with the Department, and when the situation demands is placed under strict surveillance.

A reference to the published reports of the Department will show a gradual but steady improvement in the condition of the food supply of the State.

At the beginning of the work the most unsatisfactory conditions were found to exist. Spices adulterated with gypsum, red saunders, cocoa-nut shells, ground olive stones, cracker crumbs, sand, corn flour, floor sweepings, etc.; cream of tartar composed of gypsum, phosphate of lime and alum; jellies consisting of cooked starch, glucose and foreign coloring matter; artificial extracts made from ethers; distilled vinegars colored with molasses and sold as the product of apples; molasses adulterated with glucose; coffee cheapened by peas and chicory; olive oil mixed with cotton seed oil; oleomargarine masquerading as butter; and other fraudulent adulterations were found to a greater or less extent in nearly every stock exposed for sale in the State.

A thorough and systematic inspection was at once instituted; adulterated goods when found were condemned, removed from sale, destroyed or shipped out of the State.

It is today the exception to find impure, adulterated or misbranded food products on the markets of the State.

In addition to a general surveillance of the stocks found displayed for sale, the Department inspectors have in many known instances

directly prevented the importation of large quantities of spurious goods into the State.

The work of this branch of the Department is shown in the published reports and bulletins, but it is impossible to detail all that has been accomplished. Knowledge of the fact that the markets of the State are constantly and vigilantly patrolled has prevented the sale of thousands of pounds of adulterations of which no record can be obtained.

The system of inspection inaugurated in 1897 to control and improve the conditions under which the milk supply of our cities and villages is produced and distributed, has been elaborated and is today the most thorough and competent system of dairy inspection to be found in any state of the Union. The idea was first tried in Michigan and has proven most satisfactory to the people at large. Perhaps its greatest endorsement is found in the fact that the system has been adopted by at least two other states. From no work of the Department does there come a greater or more commendable result than that achieved with the Michigan system of dairy inspection.

ANALYSIS.

The work of the Department chemists during the past four years has given to food chemistry at least four new and original methods for detecting adulteration, namely; a method for the identification of process butter; a method for distinguishing true extract of vanilla from artificial vanillin; a method for the separation, estimation and identification of coumarin and vanillin in commercial flavoring extracts; and a method for ascertaining the character of cider vinegar by an analysis of the solids and ash thereof.

This branch of the service has been found equal to every emergency, both in original research work in the laboratory, and in having successfully contended in the courts against some of the foremost chemical experts of the country.

PROSECUTIONS.

Upon assuming control of the Department the present administration found no court decisions in Michigan bearing on food questions.

A growing belief was prevalent in the State that the laws either could not or would not be enforced. In the first cases brought, the Department was met in court by a multiplicity of legal questions as to the true meaning and intent of the statutes. Other vexed and technical questions have arisen from time to time and the Department has been forced five times to seek final action in the Supreme Court of the State.

As a result a known path through the labyrinth of legal technicalities is fairly blazed in Michigan and probably no state in the Union is more strongly fortified today than is ours with questions of food litigation authoratively interpreted.

Experience has proven that a strict infliction of the penalties prescribed for infraction is necessary to inspire in the minds of violators that obedience which the laws demand. The policy of education and persuasion formerly in vogue doubtless gave some results, but we believe that desired conditions are best produced when dealers are made to feel that wilful or careless violation will surely bring exposure

and punishment. The policy of the present administration has been to meet such infractions of the law with prompt prosecution.

Two hundred and thirty-seven prosecutions have been instituted during the present administration, an average of over one each week, and the fact that of this number less than eight per cent of the cases tried have failed of conviction is the best proof that the punishment meted was merited.

In bringing prosecutions we adopted the policy of making the party defendant who is primarily responsible for the law's infraction. We have always held that next to guarding the interests of the consumer, our duty was to protect the trade of the State from the imposition of dishonest manufacturers and jobbers. Examination of our reports will show that, with but very few exceptions, in the cases brought, we have aimed to punish the person, if accessible, who was first and primarily responsible for the presence of the adulterated article on the markets of the State.

It is natural that those who have suffered exposure and pecuniary loss through prosecution should criticise a policy which brought about such conditions. We have neither excuse nor apology to offer. The preservation of the public health and the fulfillment of trade honesty demand the law's strict enforcement. This we have aimed to accomplish, adopting as our policy, that which we believed would soonest bring about the desired results.

After four years of service, with no ambition to longer hold the office, with a conscientiousness of having tried to do our plain duty, we bespeak for our successors the same loyal support which has been accorded the Department by the people of Michigan during the last four years.

FINANCIAL STATEMENT.

Six months ending December 31, 1900.

Special appropriation for maintenance of Department.....	\$18,000 00
Fees received from registration of cheese factories.....	34 00

DISBURSEMENTS.

Salary of Commissioner.....	\$600 00
Salary of Deputy Commissioner.....	500 00
Salary of State Analyst.....	600 00
Salary of Assistant Analyst.....	334 23
Salary of four regular Inspectors.....	1,884 00
Salary of special Inspectors.....	777 00
Salary of two clerks.....	720 00
Traveling expenses of Commissioner.....	405 05
Traveling expenses of Deputy Commissioner.....	437 37
Traveling expenses of State Analyst.....	179 23
Traveling expenses of Assistant State Analyst.....	102 95
Traveling expenses of four regular Inspectors.....	1,637 81
Traveling expenses of special Inspectors.....	389 70
Chemicals and chemical apparatus.....	121 94
Postage.....	965 70
Telephone, telegraph and express.....	89 79
General expense, including legal advice, chemical testimony, etc.	1,903 43
By balance on hand January 1, 1901.....	6,385 80

\$18,034 00 \$18,034 00

The heavy expenditure for the last six months of 1900 is due to the extraordinary demands for legal and chemical services arising from the investigation and prosecution of persons using poisonous preservatives in milk throughout the State; this unusual expense amounted to more than \$2,000.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900.....	18
Cases commenced since said date.....	63
Cases nolle prossed.....	2

CASES DISPOSED OF.

Before Examining Magistrates.... 42	{ Defendants bound over to trial courts	41
	{ Defendants discharged on examination.	1
In Trial Courts..... 14	{ Defendants convicted.....	14
	{ Defendants acquitted.....	0
Cases pending January 1, 1901.....		64

PROCEEDINGS HAD DURING MONTH OF DECEMBER, 1900.

Complaint was made on the 10th inst., in the police court of the city of Detroit, against Edgar H. Adams and Henry W. Pelton, representing the Wolverine Fish Co., of Detroit, Mich., charged with having sold oysters containing boracic acid. Examination set for January 4th.

Complaint was made on the 17th inst., in the police court of the city of Detroit, against Angus G. McDonald and Joseph Allen, representing A. Booth & Co., of Detroit, Mich., charged with having sold oysters containing boracic acid. Examination set for January 4th.

Complaint was made on the 17th inst., in the police court of the city of Detroit, against Abram Levy, of Detroit, Mich., charged with having sold oysters containing boracic acid. On the 19th inst. defendant waived examination and was bound over to the recorder's court of the city of Detroit for trial.

Complaint was made on the 17th inst., in the police court of the city of Detroit, against George H. Giddey and Henry F. Monchamp, of Detroit, Mich., charged with having sold oysters containing boracic acid. On the 19th inst. defendants waived examination and were bound over to the recorder's court of the city of Detroit for trial.

Complaint was made on the 21st inst., in the police court of the city of Detroit, against Jacob W. Burkhardt, representing J. L. Hudson & Co., of Detroit, Mich., charged with having sold oysters containing boracic acid. Examination set for January 11th.

Complaint was made on the 21st inst., in the police court of the city of Detroit, against Benjamin Neumann, representing C. A. Shafer, of Detroit, Mich., charged with having sold oysters containing boracic acid. Examination set for January 11th.

Complaint was made on the 21st inst., in the police court of the city of Detroit, against William B. Radmacher, representing Radmacher & Schneider, of Detroit, Mich., charged with having sold oysters containing boracic acid. Examination set for January 4th.

Complaint was made on the 21st inst., in the police court of the city of Detroit, against Jacob Lavison, of Detroit, Mich., charged with having sold oysters containing boracic acid. Examination set for January 11th.

In the case pending in the justice court of the village of Omer against John Buffin, representing Berdan & Co., of Toledo, Ohio, charged with having sold imitation jelly improperly labeled, defendant on the 17th inst. entered a plea of guilty to said charge. A fine of \$42.00 was imposed by the court.

In the case pending in justice court of the city of Cassopolis against Alex. LaPierre, representing the Redell Grocery Co., of South Bend, Ind., charged with having sold adulterated cream of tartar, defendant on the 20th inst. waived examination and was bound over to the circuit court for the county of Cass for trial.

INSPECTIONS.

The following places were visited by the Department's inspection force during the month of December:

Ford City, Glenwood, Trenton, Wyandotte, Flat Rock, Grosse Isle, Rockwood, Adrian, Wyandotte, Dearborn, Highland Park, Taylor Road, Connose Creek, Grosse Pointe, Clairview, Greenfield, Clarenceville, Northville, Ecorse, River Rouge, Woodmere, Delray, West End, Taylor Center, Hand Station, Vanderbilt, Omer, Plymouth, Stark, Livonia, Elm, Redford, Sand Hill, Bell Branch, Beech, Wallaceville, Perrinsville, Newburg, Denton, Detroit, Canton, Inkster, Wayne, Romulus, Belleville, West Sumpter, Martinville, Waltz, Willow, New Boston.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of December, 1900.

At Port Huron:

Fred Linberg—Condition of cows, good and fairly clean; feed, fodder corn, clover hay, ground corn and oats; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, neat and clean; uses an aerator.

Arthur Wight—Condition of cows, good and fairly clean; feed, fodder corn, ground corn and oats, and buckwheat bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; uses an aerator in stable.

Kuehn—Condition of cows, good and clean; feed, fodder corn, and pea bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well.

Otie Annis—Condition of cows, very good and clean; feed, clover hay, ground corn and oats, and pea bran; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, city; uses an aerator.

John Pohe—Condition of cows, good and clean; feed, corn stalks, corn screenings and sugar beets; stables, neat and clean; whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, city.

John Marschenkowski—Condition of cows, good and clean; feed, hay, fodder corn, pea bran and shorts; stables, fairly neat and clean, whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, river.

H. Barnes—Condition of cows, good and clean; feed, fodder corn, pea bran and shorts; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Fred Beach—Condition of cows, very good and clean; feed, ensilage, fodder corn, clover hay, pea meal and ground corn and oats; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, spring; milk room, neat and clean; uses an aerator.

George G. Baldwin—Condition of cows, good and clean; feed, ensilage and shorts; stables, neat and clean, has cement floor; yard, clean and dry; drainage, good; ventilation, good; water, spring; milk room, neat and clean, has cement floor; uses an aerator.

Mahlon—Condition of cows, good and clean; feed, fodder corn and pea meal; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring; milk room, neat and clean, cement floor; uses an aerator.

Geo. M. Fair—Condition of cows, very good and clean; feed, fodder corn, oats and pea bran; stables, fairly neat and clean, whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, fairly neat and clean; uses an aerator.

William Parr—Condition of cows, good and clean; feed, fodder corn, hay and pea meal; stables, fairly neat and clean; yard, clean and dry; ventilation, fair; water, well; uses an aerator.

J. E. Small—Condition of cows, good and clean; feed, fodder corn, pea bran, hay and wheat bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well and river; milk room, neat and clean; uses an aerator.

Fred Wyman—Condition of cows, good and clean; feed, fodder corn and pea bran; stables, neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, fairly neat and clean; uses an aerator.

George S. Wyman—Condition of cows, good and clean; feed, fodder corn, ground peas and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, rather neat and clean; uses an aerator.

Ed. Smith Estate—Condition of cows, fairly good and clean; feed, fodder corn; stables, neat and clean, partly whitewashed; yard, clean

and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator.

Fred G. Bean—Condition of cows, very good and clean; feed, ensilage, corn fodder and ground oats; stables, neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well and pond; milk room, neat and clean; uses an aerator.

Fred Schrikle—Condition of cows, very good and clean; feed, pea bran, corn stalks and hay; stables, neat and clean, nicely whitewashed; yard, fairly clean and dry; drainage, poor; ventilation, fair; water, well; milk room, neat and clean; uses an aerator.

Wm. Hopps—Condition of cows, good but dirty; feed, corn fodder, pea meal, carrots; stables, neat and clean, nicely whitewashed, but cows not bedded; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator.

H. A. Fairman & Sons—Condition of cows, good and clean; feed, fodder corn, pea bran, linseed meal bran and shorts; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; building new milk room; uses an aerator.

Page & Riggs—Condition of cows, good and clean; feed, fodder corn and pea bran; stables, very neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator.

Henry Travis—Condition of cows, fairly good and clean; feed, fodder corn and ground corn and oats; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Perrie Mark—Condition of cows, good and clean; feed, fodder corn, millet hay and pea meal; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, creek and well; milk room, neat and clean; uses an aerator; sells to John Graham.

Daniel McDonald—Condition of cows, good and fairly clean; feed, fodder corn and pea meal; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, city; milk room, neat and clean; uses an aerator.

Wm. Howard—Condition of cows, very good and clean; feed, clover hay, fodder corn, pea meal and ground peas and oats; stables, very neat and clean; yard, clean and dry; drainage, good; water, city; uses an aerator.

At Pontiac:

W. M. Brookman—Condition of cows, good and clean; feed, fodder corn, corn meal and beets; stables, neat and clean; yard, clean and dry; ventilation, good; water, lake; milk room, neat and clean.

I. S. Taylor—Condition of cows, good and clean; feed, cut straw and corn stalks and corn meal; stables, neat and clean and will have cement floors in a few days; yard, clean and dry; drainage, good; ventilation, good; water, well; sells milk to J. R. Taylor.

Chas. A. Webster—Condition of cows, good and clean; feed, corn fodder, hay, bran and shorts, and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well and spring.

W. H. Knip—Condition of cows, very good and clean; feed, ensilage, corn fodder and corn; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

G. L. Todd—Condition of cows, good and clean; feed, ensilage, corn stalks and oil meal; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

John R. Taylor—Condition of cows good and clean; feed, ensilage, corn stalks, corn meal and bran; stables, very neat and clean, cement floors and partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean and has cement floor; uses an aerator.

I. K. Grow—Condition of cows, very good and clean; feed ensilage, shredded fodder, ground corn and oats and bran; stables, neat and clean; also whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

Mrs. N. E. Young—Condition of cows, good and clean; feed, ensilage, wheat and buckwheat bran; stables, fairly good but clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

C. H. Green—Condition of cows, fairly good but not very clean; feed, millet, cut stalks, bran and shorts; stables, just fairly clean and good; yard, clean and dry except a bad mud hole at water tank; ventilation, fair; drainage, good; water, well; milk room, neat and clean.

Mrs. P. R. Roberts—Condition of cows, very good and clean; feed, cut hay, straw and corn fodder and ground corn and oats; stables, neat and clean and nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, city; milk room, neat and clean.

At Lapeer:

Nelson Miles—Condition of cows, good and clean; feed, hay, shredded fodder and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

France McElroy—Condition of cows, very good and clean; feed hay, shredded fodder bran and corn meal; stables, neat and clean, light,

airy and nicely whitewashed; yard, clean and fairly dry; drainage, good; ventilation, good; water, well; milk room, neat and clean.

At Wyandotte:

Henry Bailey—Condition of cows, good and clean; feed, clover hay, corn fodder, beets and corn; stables, very fine, light, airy, with cement floor; yard, fairly clean and neat; drainage, fair; ventilation, good; water, creek and well.

J. P. Smith—Condition of cows, good and clean; feed, clover hay, corn stalks, buckwheat bran and shorts; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; sells milk to Mrs. P. R. Johnson.

Victory Smith—Condition of cows, very good and clean; feed, corn stalks, hay and corn; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring; sells milk to Mrs. P. R. Johnson.

Stanley McPherson—Condition of cows, very good and very clean; feed, ground corn and oats, bran, corn stalks and clover hay; stables, very neat and clean; yard, fairly neat and clean; drainage, good; ventilation, good; water, spring; sells milk to Mrs. P. R. Johnson.

Wm. Shoemaker—Condition of cows, good and clean; feed, corn fodder, clover hay, ground corn and oats and bran; stables, neat and clean; yard, fairly clean and dry; drainage, fair; ventilation, good; water, well and spring.

Herman Shoemaker—Condition of cows, good and fairly clean; feed, clover hay, corn stalks, ground corn and oats and bran; stables, neat and clean; yard, rather wet and dirty; drainage, fair; ventilation, fair; water, well and spring.

Anton Frank—Condition of cows, good and clean; feed, clover hay, corn stalks and ground corn and oats; stables, fairly neat and clean; yard, fairly clean and dry; drainage, fair; ventilation, fair; water, well; sells milk to Mrs. P. R. Johnson.

Henry Long—Condition of cows, good and clean; feed, corn stalks, ground corn and oats; stables, very neat and clean; yard, a little wet but clean; drainage fair; ventilation, fair; water, well; sells milk to Mrs. P. R. Johnson.

McCann Bros.—Condition of cows, good and clean; feed, corn stalks; stables, fairly neat and clean, ceiling not very good; yard, fairly clean and dry; drainage, good; ventilation, fair; water, well; sells to Mrs. P. R. Johnson.

Chas. Heath—Condition of cows, good and clean; feed, corn stalks, ground corn and oats; stables, not very good but fairly clean; yard, clean and dry; drainage, fair; ventilation, poor; water, well,

John Bidrof—Condition of cows, good and clean; feed, ground corn and oats, oil meal, fodder corn and hay; condition of stables, neat and clean; yard, fairly clean and dry; drainage, good; ventilation, good; water, spring; sells milk to Mrs. P. R. Johnson.

Frank Marx—Condition of cows, fairly good but dirty; feed, beets, brewery grain, hay and corn fodder; stables, fairly neat and clean; yard, very wet and dirty; drainage, poor; ventilation, good; water, well; strains milk in stable; sells to Mrs. P. R. Johnson.

At Alma:

A. W. Wright—Condition of cows, good; feed, ensilage, beet pulp, ground beet seed, buckwheat bran, chops; stables, very clean, light, whitewashed; yard, clean; ventilation, good; water, well.

Daniel McLaughlin—Condition of cows, dirty; feed, beet pulp, hay, corn stalks; stables, clean; yard, very muddy; ventilation, poor.

Job State—Condition of cows, good; feed, beet pulp chop, feed, corn stalks; stables, clean floor, open scaffolding; yard, well drained but dirty; ventilation, good; water, well.

Homer Hart—Condition of cows, good; feed, beet pulp, corn fodder; stables, clean; yard, sanitary; ventilation, good; water, well.

At Ithaca:

Henry Mason—Condition of cows, good; feed, bran, corn stalks; stables, dark and dirty, open scaffolding; yard, clean and well drained; ventilation, good; water, well.

D. M. Wolf—Condition of cows, good with exception of one which has lump jaw; feed, corn stalks and chop feed; stables, dirty; yard, very muddy; ventilation, good; water, well.

At Hart:

Louis Graff—Condition of cows, poor; feed, potatoes, pea straw; pea ensilage in a sour mouldy condition; stables, clean; manure against barn; drainage, good; ventilation, poor; water, well.

At Frankfort:

John Penford—Condition of cows, poor; feed, hay and corn stalks; stables, dirty; yard, unsanitary; ventilation, good; water, well.

At Cadillac:

Chas. Shepardson—Condition of cows, good and clean; feed, clover hay, corn fodder, bran and chop feed; stables, clean; yard, unsanitary; ventilation, good; water, well.

Chas. Holman—Condition of cows, good and clean; feed, cut fodder and bran; stables, clean; yard, sanitary; ventilation, good; water, well.

A. W. Anderson—Condition of cows, good and clean; feed, fodder and chop feed; stables, clean; yard, sanitary; ventilation, good; water, well.

Chris Jefferson—Condition of cows, clean and good; feed, clover hay and fodder bran; stables, clean; yard, sanitary; ventilation, good, water, well.

Daniel Mulvaney—Condition of cows, dirty; feed, fodder corn, bran and hay; stables, filthy; yard, muddy, mud against barn; ventilation, good; water, well.

Fred B. Hestor—Condition of cows, good and clean; feed, clover hay and chop; yard, clean and sanitary; ventilation, good; water, well.

At Homer:

Henry Cook—Condition of cows, clean; feed, bran and cut fodder; stables, dirty; yard, well drained; water, well.

At Albion:

James Finch—Condition of cows, good; feed, corn fodder; stables, clean; yard, clean, well drained; ventilation, good; water, well.

S. A. Bacon—Condition of cows, good; feed, corn fodder, bran, corn and hay; stables, good and clean; yard, sanitary; ventilation, good; water, well.

Lasalle—Condition of cows, clean and good; feed, bran, cut fodder, hay and chop feed; stables, clean; yard, sanitary; ventilation, good; water, well.

At Jonesville:

Chas. Fenton—Feed, bran, clover hay; stables, clean; yard, sanitary; ventilation, good; water, well.

Mrs. Verne Brown—Condition of cows, clean and good; stables, clean; yard, sanitary; ventilation, good; water, well.

Arch Dudley—Condition of cows, good; feed, cob meal, bran, hay, fodder, corn; stables, clean; yard, clean and sanitary; ventilation, good; water, well.

At Manistee:

Chas. Russell—Condition of cows, clean; feed, fodder corn; clover hay, bran, carrots; stables, clean; yard, sanitary; ventilation, good; water, well.

At Big Rapids:

Burt Pulman—Condition of cows, good; feed, clover hay, beets and bran; stables, clean; yard, sanitary; ventilation, good; water, well.

James A. Fuller—Condition of cows, good; feed, cut fodder, clover hay and bran; stables, clean and in good condition; yard, sanitary; ventilation, good; water, well.

Louis Carel—Condition of cows, good; feed, carrots, corn fodder and bran; stables, clean; yard, clean, well drained; ventilation, good; water, well.

Fred Cox—Condition of cows, clean and good; feed, chop, corn fodder and bran; stables, clean; yard, sanitary; ventilation, good; water, well.

At Eaton Rapids:

Wm. E. Hart—Condition of cows, clean and good; feed, ensilage, buckwheat middlings; stables, clean; yard, clean, sanitary; ventilation, good; water, well.

Denis Miller—Condition of cows, clean and good; feed, ensilage, bran; stables, clean; yard, sanitary; ventilation, good; water, well.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., December 31, 1900.

HON. ELLIOT O. GROSVENOR, *Dairy and Food Commissioner:*

SIR—During the month of December 47 samples of food products have been examined, 23 being pure and 24 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Butter.....	4	1	3
Cinnamon.....	1	0	1
Cloves.....	1	1	0
Extracts, flavoring.....	3	0	3
Ginger.....	1	1	0
Gum, chewing.....	2	2	0
Jelly.....	2	0	2
Milk.....	2	2	0
Milk, condensed.....	1	1	0
Mixture.....	1	1	0
Mustard.....	1	1	0
Oysters.....	18	10	8
Pepper.....	4	0	4
Preserves.....	1	1	0
Syrup.....	2	0	2
Vinegar.....	3	2	1
Totals	47	23	24

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

BUTTER.

No. G-988. Sample of butter from Wm. H. Mann, restaurant, Bay City.
Oleomargarine; no sign displayed in room.

No. I-677. Sample of butter from Armstrong & Austin, Davison.
Process butter

No. I-768. Sample of butter from Armstrong & Austin, Davison.
Process butter

CINNAMON.

No. L-60. Sample of cinnamon from consumer, Northport.

Sold (1900) by **Norman B. Leslie, Chicago, Ill.**

Ash	3.95 per cent.
Total starch	31.25 " "

Microscopical examination shows presence of cooked wheat starch.

EXTRACTS (flavoring).

No. P-15. Sample of "Capitol Extract of Vanalena and Coumarine" from D. G. Neuber, Elkton.

Sold (1900) by **Northrop, Robertson & Carrier, Lansing.**
Producer, **Capital Extract Co., Lansing.**

Vanillin	0.069 per cent.
Coumarin	0.147 " "
Vanilla resin	Present.
Organic acids, gums, etc.....	Present.
Color	Foreign.

Not properly labeled.

No. P-16. Sample of "Coumarine and Vanilla Colored Extract," from R. E. Krause, New Boston.

Sold (1900) by **Lyon Bros., Chicago, Ill.**
Producers, **East Side Chemical Works, Chicago, Ill.**

Vanillin	0.051 per cent.
Coumarin	0.065 " "
Color	Foreign.

Contains foreign coloring matter.

No. P-68. Sample of "Artificial Pineapple Flavor," from J. F. Shear, Beech.

Sold (1900) by **Lee & Cady, Detroit.**

Producers, **Seely Mfg. Co., Detroit.**

Solid extract	0.06 per cent.
Compound ethers .....	.....
Alcohol .....	.....
Coloring matter .....	.....

An ethereal preparation.

JELLY.

No. G-985. Sample of "Michigan Best Quality Flavored Currant Jelly" from Wm. C. Curtis, Omer.

Sold (1900) by **Berdan & Co., Toledo, Ohio.**

Producer, **The E. G. Dailey Co., Detroit.**

Water	33.22 per cent.
Ash	1.20 " "
Reducing sugar before inversion.....	34.77 " "
Reducing sugar after inversion.....	36.10 " "
Polarization before inversion	+112.0 degrees.
Polarization after inversion	+110.0 "
Starch paste	Present.

Imitation fruit jelly.

No. K-210. Sample of "Heinz's Strawberry Jelly" from T. Jas. Moran, Ludington.

Sold (1900) by **Wellauer & Hoffman Co., Milwaukee, Wis.**

Producer, **Heinz's, Lafayette, Ind.**

Water	30.10 per cent.
Ash	0.47 " "
Reducing sugar before inversion.....	29.08 " "
Reducing sugar after inversion.....	48.00 " "
Polarization before inversion	+100.0 degrees.
Polarization after inversion	+79.2 "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

OYSTERS.

No. G-990. Sample from Wolverine Fish Co., Detroit.

Boric acid	0.314 per cent.
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Preserved with boric acid.

No. G-992. Sample from A. Booth & Co., Detroit.

Boric acid	0.168 per cent.
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Preserved with boric acid.

No. G-993. Sample from D. Levy & Sons, Detroit.

Boric acid	0.134 per cent.
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Preserved with boric acid.

No. G-994. Sample from Geo. H. Giddy, Detroit.

Boric acid	0.129 per cent.
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Preserved with boric acid.

No. G-1001. Sample from the J. L. Hudson Co., Detroit.

Boracic acid	0.187 per cent.
Preserved with boracic acid.	

No. G-1002. Sample from C. A. Shaferm, Detroit.

Boracic acid	0.186 per cent.
Preserved with boracic acid.	

No. G-1004. Sample from Schneider & Rademacher, Detroit.

Boracic acid	0.189 per cent.
Preserved with boracic acid.	

N. G-1007. Sample from Jacob Laveson, Detroit.

Boracic acid	0.161 per cent.
Preserved with boracic acid.	

PEPPER.

No. K-208. Sample of black pepper from A. J. Krueger, Manistee.

Sold (1900) by **Smith, Thorndike & Brown Co., Milwaukee, Wis.**

Total ash	9.69 per cent.
Sand	2.58 " "
Starch	34.09 " "

Contains an excess of sand.

No. K-209. Sample of white pepper from Geo. E. Trip, Ludington.

Sold (1900) by **Woolson Spice Co., Toledo, Ohio.**
 Producer, **Woolson Spice Co., Toledo, Ohio.**

Ash	3.46 per cent.
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Microscopical examination shows presence of about 1 per cent sago meal.

No. M-59. Sample of pepper from consumer, Northport.

Sold (1900) by **Norman B. Leslie, Chicago, Ill.**

Total ash	7.61 per cent.
Sand	1.83 " "
Total starch	25.57 " "

Microscopical examination shows the presence of rice, cayenne paper and foreign hulls.

No. P-13. Sample of "Strictly Pure Ground Pepper" from Ryan Bros., Gagetown.

Sold (1900) by **Moran, Fitzsimmons Co., Detroit.**

Total ash	10.23 per cent.
Sand	4.08 " "
Starch	24.46 " "

Contains an excess of sand and peper hulls.

SYRUP.

No. L-64. Sample of "Gold Medal Drips" from consumer, Northport.

Sold (1900) by **Norman B. Leslie, Chicago, Ill.**

Water	21.52	per cent.
Ash	0.54	" "
Reducing sugar before inversion.....	38.46	" "
Reducing sugar after inversion.....	40.05	" "
Polarization before inversion.....	160.0	degrees.
Polarization after inversion.....	159.4	"

Glucose.

No. L-65. Sample of "Honey Drips" from consumer, Northport.

Sold (1900) by **Norman B. Leslie, Chicago, Ill.**

Water	24.96	per cent.
Ash	0.51	" "
Reducing sugar before inversion.....	35.56	" "
Reducing sugar after inversion.....	39.06	" "
Polarization before inversion.....	+150.0	degrees.
Polarization after inversion	+143.0	"

A glucose mixture.

VINEGAR.

No. P-14. Sample of "Fermented Cider Vinegar" from D. G. Neuber, Elkton.

Sold (1900) by **Geo. A. Alderton & Co., Saginaw.**

Producer, **Watson & Gordon Vinegar Co., Detroit.**

Specific gravity	1.0131	
Acid, as acetic.....	4.15	per cent.
Total solids	1.54	" "
Ash	0.34	" "

Below the standard in solids.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity:

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article:

5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound."

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., containing ingredients injurious to health, are prohibited.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

Syrups.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

Spices.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

Vinegars.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING

W. B. SNOW,	-	-	-	-	-	-	COMMISSIONER
GEO. H. BUSSEY,	-	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	-	STATE ANALYST

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

THE DETROIT MILK CASES.

After a delay of over three months the first of the Detroit milk cases was brought to trial on the 15th inst. The particular case was that of the People vs. Towar's Wayne County Creamery, a corporation; George Towar, president of said corporation, and Frank J. Towar, secretary of said corporation; and was based upon a sale of milk to the Children's Free Hospital of Detroit, the information charging that this milk so delivered to the Children's Free Hospital contained an added ingredient, to wit: formaldehyde, in the proportion of one part to 100,000, and further charged that formaldehyde in this quantity was injurious to health.

The case came up for trial before Hon. Alfred J. Murphy, one of the judges of the recorder's court, and a jury which was secured at noon of the first day of the trial. The State was represented by Prosecuting Attorney Ormund F. Hunt and Assistant Prosecuting Attorney Bingley R. Fales, and the defendants by three eminent counsel, numbered among the most able of the Michigan bar. The admission of testimony began upon the afternoon of the 15th, and continued uninterruptedly for eleven days, which was supplemented by three days of argument by counsel.

Aside from the testimony necessary to show the sale by defendants to the hospital and the securing of samples by the department inspector, the State's witnesses were the State Analyst, R. E. Doolittle, whose testimony showed that formaldehyde was found in the sample in the proportion of one in 25,000 to 50,000.

Prof. Albert B. Prescott, head of the Chemical Department of the University of Michigan, testified to finding formaldehyde in the sample submitted to him in substantially the same proportion as found by the State Analyst, and that its use in that proportion was injurious to health.

Dr. John E. Clark, official county chemist of Wayne county, also found formaldehyde in the sample, and testified positively that the same was injurious to health.

Dr. Victor C. Vaughan, dean of the Medical Department of the Uni-

versity of Michigan, testified positively as to the injurious effect of formaldehyde in the proportions found.

Dr. Charles T. McClintock, chief bacteriologist and physiological chemist for Parke, Davis & Co., of Detroit, also swore positively, basing his knowledge upon his own experiments, that the use of formaldehyde in milk in the quantities found was injurious to health.

The State then rested and the defense undertook to show from the defendants and their employes that formaldehyde had never been used in their business, which testimony was vigorously and generously given. The defense undertook to prove that formaldehyde in the quantities found was not injurious to health, though they failed to produce but one witness who would swear positively that it is not injurious when so used. This witness was a young man but six years out of college, with no special experience, and who testified vigorously in behalf of the defendants, among other things stating that he frequently in his practice gave formaldehyde to infants in doses as large as ten drops, and that he gave it for a variety of ills. The defense's chief medical expert, however, testified that formaldehyde was a poison, and even one of the defendants, himself a doctor, admitted upon the stand that he believed the use of formaldehyde in milk was injurious to health.

The State in rebuttal produced a witness whose testimony showed that as long ago as 1898 he had seen in defendant's main place of business, in a little anteroom off the main milk room, a gallon bottle of formaldehyde under the label "Freezine," part of the contents of which had been used.

After three days spent in argument and receiving the judge's charge, the jury retired. After being out three hours the jury asked for additional instructions and submitted the question whether they were authorized to find the corporation charged in the information guilty and at the same time acquit the individual defendants. The court instructed them that such a finding was allowable, and they then withdrew to the jury room. At the end of another six hours the jury notified the court that they had agreed upon a verdict, which verdict proved to be one of acquittal for all of the defendants, including the corporation.

Comment is out of place, and withal unnecessary. Sufficient it is to say that the testimony for the State apparently left no avenue of escape.

The State Analyst had been reinforced by the most able, scientific men of the State. There was not in the whole chain of evidence a single imperfect link. The character and trustworthiness of the State's witnesses were not attacked in any particular. From a legal standpoint, the prosecution was admirably conducted. The prosecuting attorney and his assistant had given generously of their time to become thoroughly acquainted with the facts and scientific questions, and their conduct of the case left positively nothing to be desired. They handled the case with rare good judgment and tireless energy. Their argument to the jury carried conviction to all who heard them—save the jury. From the bench the trial judge was eminently fair upon all questions: his charge to the jury a model of judicial reasoning and clearness.

Upon the whole, it is safe to hazard the belief that never has an im-

portant food case received more careful preparation and trial than did that of the People vs. Towar's Wayne County Creamery.

To the defense was brought the energy and shrewdness of a trio of counsel whose management of their client's interests was at all times marked by stubborn, technical resistance.

A significant incident occurred after the jury had given its verdict. One of the jurors, assisted by others of the accused milkmen, openly applauded the verdict by clapping of hands. In meting out punishment for this contempt of court, Judge Murphy discharged this particular juror from further service on the panel and said, "You are not a fit man to serve upon a jury."

While the result of the trial is to be regretted in the light of the growing tendency of the use of preservatives in milk, yet it is generally believed that the publicity given to the testimony for the State by the newspapers of Detroit left a wholesome effect in restraining the nefarious practice in the future.

There can be no better place or time to again warn the milk dealers of Michigan that it is an open violation of law to use any preservative whatever in milk or cream, and to further advise them that the use of formaldehyde, sold as it is under the name of "Freezine," is injurious to health and makes them liable to heavy penalties.

The outcome of the prosecution of Towar's Wayne County Creamery in Detroit must not be construed to mean that the policy of the department will change. All persons found using formaldehyde, boracic acid or other preservative in milk or cream sold for consumption in Michigan cities and villages will be vigorously prosecuted. No more nefarious practice can be employed than to threaten American child-life by the addition of poisonous acid preservatives to the food upon which nature intends young life to subsist.

W. B. SNOW.

THE BERRIEN COUNTY OLEOMARGARINE CASES.

Something like a year ago the department began five cases in Berrien county against hotel and restaurant keepers for the illegal sale of oleomargarine. The defendants in these cases were all bound over to the circuit court for that county, two of them being residents of the city of St. Joseph, and three of them residents of the city of Benton Harbor. The cases against the St. Joseph residents were brought on for trial; in one case a contest was made, and in the other the defendant at the last moment plead guilty, and both defendants were fined.

The writer learns that some time in December last three cases against the residents of Benton Harbor were nolle prossed at the request of the prosecuting attorney of that county. In fairness to the St. Joseph defendants who were convicted, and in justice to the department, it must be stated that this action of the prosecuting attorney was without any knowledge or consultation with the Dairy and Food Department, and certainly without its consent.

We are ignorant of what reasons the prosecuting attorney may have had for his action, but remembering how bitter was the feeling at the time the cases were begun between the residents of the two cities, we are unwilling to accept any share of the criticism which may come from having pushed the prosecution of the St. Joe cases and have brought about the discharge of the Benton Harbor defendants, and believe that such action by the prosecuting attorney is contrary to good public policy and clearly threatens the efficient administration of the dairy and food laws. If a State officer is commanded by law to begin prosecution in certain cases, and in pursuance of that duty has begun those cases, he has a right to at least be consulted before arbitrary action of this kind is taken.

ELLIOT O. GROSVENOR.

THE DEPARTMENT'S NEEDS.

The growing demands upon the Dairy and Food Commissioner of this State merit consideration at the hands of the present Legislature. In addition to the work as planned and carried on at the present time, the Legislature now in session threatened to add burdens of no mean proportions. The anti-color oleomargarine law has been re-enacted, the enforcement of which, as has been proven in Michigan as well as other states having similar laws, will demand a considerable portion of a Dairy Commissioner's energy and resources. In fact, in many states more money is spent to enforce this same anti-color law than in Michigan is allowed to cover the whole work of the department.

There should be in Michigan one inspector for every congressional district. Provision should be made for better equipment of the chemical department, to say nothing of the insufficient salaries now paid the commissioner, the deputy commissioner and chemist.

Several bills have been noticed which will entail upon the department new duties, the demands of which can only be conjectured, but which should be taken into consideration in establishing its equipment.

Legislation is needed to restrain and control the growing use of antiseptics in foods. This legislation in our judgment should be in the nature of a requirement that each package containing preservatives should plainly have stated upon its label the kind of preservative used and the amount.

Some slight modifications of the general food law are advisable in order to keep pace with the development of adulteration and fraud. The finesse of fraud and the easy facilities of deceit demand an ever watchful, ever vigilant course upon the part of those charged with food law enforcement.

ELLIOT O. GROSVENOR.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900	18
Cases commenced since said date	68
Cases nolle prossed	2

CASES DISPOSED OF.

Before Examining Magistrates 42	{ Defendants bound over to trial courts	41
	{ Defendants discharged on examination	1
In Trial Courts 16	{ Defendants convicted.....	15
	{ Defendants acquitted.....	1
Cases pending February 1, 1901		62

PROCEEDINGS HAD DURING MONTH OF DECEMBER, 1900.

In the case pending in the recorder's court for the county of Wayne against Towar's Wayne County Creamery, a corporation, and George W. Towar, president, and Frank J. Towar, secretary thereof, charged with having sold milk containing formaldehyde, came up for trial on the 15th inst., before Judge Murphy and a jury. Defendants were acquitted.

In the case pending in the circuit court for the county of Cass against Alex. La Pierre, representing the Riddell Grocery Company of South Bend, Ind., charged with having sold adulterated cream of tartar, defendant on the 23d inst. entered a plea of guilty. A fine of \$25.00 was imposed by the court.

INSPECTIONS.

The following places were visited by the department's inspectors during the month of January, 1901:

Jackson, Muskegon, Battle Creek, Grand Rapids, Detroit and Michigan Center.

DAIRY INSPECTIONS.

At Jackson:

Mrs. Emma Camp—Condition of cows good, but not very clean; feed, ensilage, hay, bran and shorts; stables, fairly neat and clean; part of floor poor and wet; yard, fairly clean and dry; drainage from stable, poor; ventilation, fair; water, well; milk room neat and clean, cement floors; uses an aerator and separator.

C. W. Harrington—Condition of cows, very good and clean; feed, corn fodder, hay, ground corn and oats; condition of stables, very neat and clean; yard, very clean and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

F. B. Harrington—Condition of cows, very good and clean; feed, hay, cornstalks, and ground corn and oats; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well. Sells to Mrs. E. Camp.

John Palmer—Condition of cows, very good and clean; feed, hay, cornstalks, and ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

Arthur Laverty—Condition of cows, good and fairly clean; feed, ensilage, clover hay, cornstalks, gluten, bran, ground corn and oats; stables, neat and clean; yard clean, and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

Joseph Butter—Condition of cows, good and fairly clean; feed, cornstalks, hay and ground corn, oats and bran; stables, neat and clean, and whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

William Brandenburg—Condition of cows, good and clean; feed, ensilage, corn fodder and bran; stables, neat and clean except some cobwebs on ceiling; partly whitewashed; cement floors; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

J. L. Brockie—Condition of cows, good and clean; feed, sugar beets.

fodder, corn, hay and bran and bean fodder; condition of stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well and creek. Sells to Mrs. E. Camp.

C. H. Strand—Condition of cows, good and clean; feed, cornstalks, hay, ground corn and oats and bran; stables, neat and clean; yard, clean and dry; drainage, poor; ventilation, good; water, well. Sells to Mrs. E. Camp.

James Blakely—Condition of cows, good and fairly clean; feed, cornstalks, bean pods, corn meal and ground corn and oats; stables, fairly good and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Chas. Weyle—Condition of cows not very good; feed, hay, cornstalks, gluten and corn; stables, fairly good; yard, good; ventilation, fair; water, well.

A. Robinson—Condition of cows, good and fairly clean; feed, bran, corn and oats, buckwheat, shorts and hay; stable, fairly good; yard, good; ventilation, good; water, well.

O. H. Kellogg—Condition of cows, good and clean; feed, shorts, corn, cornstalks, and some hay; stables, fairly good; yard, good and clean; ventilation, fair; water, well. Sells to D. Manchester.

Eugene Miller—Condition of cows, good and clean; feed, corn meal, shorts, bean fodder and cornstalks; condition of stable, good; yard, good and clean; ventilation, good; water, well. Sells to D. Manchester.

E. C. Ives—Condition of cows, good and clean; feed, ship stuff, corn, cornstalks and hay; stables, fairly good; yard, good and clean; ventilation, fair; water, well. Sells to D. Manchester.

Jud Blade—Condition of cows, good and clean; feed, cornstalks, hay, bean pods, corn meal and bran; stables, fairly neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well. Sells to J. Wakeman.

W. D. Higdon—Condition of cows, very good and clean; feed, cornstalks, hay, bran shorts, malt and ground corn and oats; stables, fairly neat and clean; whitewashed; yard, clean and dry; drainage, fair; ventilation, fair; water, well.

Marshal Johnson—Condition of cows, good and clean; feed, cornstalks, hay, corn meal and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Frank Moore.

Mr. Franklin—Condition of cows, good and clean; feed, cornstalks, hay, bran, ground corn and oats; stables, neat and clean, except poor ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well.

Dell Yocum—Condition of cows, good and clean; feed, cornstalks, bean fodder, hay, bran and crushed corn; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Franklin.

R. F. Crandall—Condition of cows, fairly good and clean; feed, cornstalks, hay, bran and corn; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

Geo. M. Lewis—Condition of cows, fairly good but clean; feed, cornstalks, hay, gluten, corn and shorts; stables fairly neat and clean; yard,

clean and dry; drainage, good; ventilation, good; water, well and lake.

J. McLaughlin—Condition of cows, good and clean; feed, hay, millet, cornstalks, soaked beans, corn meal and bran; stables, very neat and clean; nicely whitewashed; yard, clean and dry; drainage good; ventilation, good; water, well. Sells to Geo. M. Lewis.

Edward Pluff—Condition of cows, good and clean; feed, cornstalks, shorts and ground corn and oats; stables, fairly good but clean and neat; yard, clean and good; drainage, good; ventilation, good; water, well. Sells to Geo. M. Lewis.

Miss Barbara Wood—Condition of cows, good and clean; feed, cornstalks, hay and corn; stables, neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

Frank Nichols—Condition of cows, very neat and clean; feed, shredded fodder, hay, bran and gluten; stables, fairly neat and clean; yard, rather wet and dirty; drainage, poor; ventilation, good; water, well; uses an aerator.

Byron Foote—Condition of cows, good and clean; feed, hay, cornstalks, ground corn and oats and bran; stables, neat and clean, partly whitewashed; yard, very clean and dry; drainage, good; ventilation, good; water, well; sells to John Crippen.

D. M. Webster—Condition of cows, very good and clean; stables, good, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

W. H. Loud—Condition of cows, very good and clean; feed, shredded fodder, hay, corn and oats, ground; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, clean and neat; uses an aerator. Sells to D. B. Webster.

Byron Pulver—Condition of cows, good and very clean; feed, hay, stalks, shorts and ground corn; stables, fairly neat and clean; ceiling dusty; yard, fairly clean and dry; drainage, good; ventilation, fair; water, well.

Hall & Son—Condition of cows, good and clean; feed, hay, cornstalks, crushed corn, quaker oats, feed and bran; stables, neat and clean, nicely whitewashed; yard, good and clean; drainage, good; ventilation, good; water, well.

J. W. Moulton—Condition of cows, good and clean; feed, hay, shredded fodder, ground corn and oats and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator and separator.

L. H. Hotaling—Condition of cows, good and clean; feed, hay, cornstalks, ground corn and oats; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to J. W. Moulton.

Holmes Smith—Condition of cows, very good and clean; feed, cut stalks, hay and bran; stables, fairly neat and clean, except some dust and cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, fair; water, well; uses an aerator.

Walter Purdy—Condition of cows, good and clean; feed, cornstalks, hay, malt and ground corn and oats; stables, fairly neat and clean; yard,

dry and fairly clean; drainage, good; ventilation, fair; water, well; milk room, neat and clean.

W. M. Dodge—Condition of cows, good but dirty; feed, cut stalks, shorts and bran; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, fairly clean and neat.

Chas. Timmons—Condition of cows, good and clean; feed, cornstalks, hay, corn meal and bran; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, fair; water, well.

Wm. Blake—Condition of cows, fairly good and not very clean; feed, hay, cornstalks, shorts and bran; stables, fairly neat and clean, excepting ceiling, which is full of dust and cobwebs; yard, clean and dry; drainage, good; ventilation, fair; water, well.

S. P. Williams—Condition of cows, fairly good and clean; feed, shredded fodder, millets ground, corn and oats; stables, very neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Wm. Blake.

T. C. Cockrane—Condition of cows, good and clean; feed, cornstalks, bean straw, bran and corn meal; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Wm. Blake.

H. F. Probert—Condition of cows, very fine and clean; feed, ensilage, cut corn fodder, ship feed, corn meal and oil meal; stables, very fine, light, airy, and have cement floors; yard, very clean and dry; drainage, fine; ventilation, excellent; water, well; milk room, very neat and clean, cement floor; uses an aerator.

Joseph Saines—Condition of cows, good and clean; feed, cornstalks, hay, bran and gluten meal; stables, fairly good and clean, but is very dark, having no windows; yard, clean and dry; drainage, good; ventilation, poor; water, well. Sells to Frank Grapentein.

A. Thorp—Condition of cows, fairly good and clean; feed, cut fodder, sugar beet pulp, crushed corn and bran; stables, neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator.

C. E. Thorp—Condition of cows, good and clean; feed, cut stalks, hay, bean fodder, bran, gluten feed and sugar beet pulp; stables, clean and neat, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well.

Shoemaker Estate.—Condition of cows, good and fairly clean; feed, cornstalks, hay, ground corn and oats; stables, fairly neat and clean; yard, clean and dry; drainage from yard, good; from stables, poor; ventilation, good; water, well. Sells to Chas. Salisbury.

Hall & Co.—Condition of cows, very good and clean; feed, cut stalks, hay, ground corn and oats; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean; uses an aerator.

Bradford & Connors—Condition of cows, good and clean; feed, shredded fodder, millet, mixed with hay, crushed corn and oats; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, spring creek; milk room, neat and clean; uses an aerator and a separator.

B. O. Newell—Condition of cows, fairly good but clean; feed, hay,

cornstalks, cobmeal and oats, bran, gluten feed and oil cake; stables, fairly neat and clean; yard, very clean and dry; drainage, very good; ventilation, fair; water, well and spring; milk room, neat and clean. Sells to Connors & Bradford.

L. L. McCain—Condition of cows, good and clean; feed, crushed corn, hay and corn fodder; stables, very neat and clean, nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Bradford & Connors.

M. B. Bradford—Condition of cows, good and clean; feed, ensilage, clover hay, corn fodder and bran; stables, fairly neat and clean, except some dust and cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Connors & Bradford.

J. Lavery—Condition of cows, good and clean; feed, ensilage, clover hay, gluten feed, bran and Quaker oat feed; stables, fairly neat and clean; ceiling, poor; yard, clean and dry; drainage, good; ventilation, fair; water, well. Sells to George Evans.

Edward Elliott—Condition of cows, good and clean; feed, cornstalks, hay, ground corn and oats, bran, gluten and corn bran; stables, fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room neat and clean; uses a separator and an aerator.

Thomas Hood—Condition of cows, good and clean; feed, ensilage, shredded fodder and bran; stables, very neat and clean, also nicely whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Edward Elliott.

Mrs. Lucy Diesenroth—Condition of cows, good and clean; feed, ensilage, shredded fodder and bran; stables, fairly neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, fair; water, well; milk room, very neat and clean; uses an aerator and a separator.

At Sandstone:

George W. Evans—Condition of cows, good and clean; feed, ensilage, cut stalks, hay, gluten feed and bran; stables, neat and clean; yard clean and dry; drainage, good; ventilation, good; water, well. Milk room fairly neat and clean. Uses an aerator.

G. W. Wheeler—Condition of cows, very good and clean; feed, cornstalks, hay, ground corn and oats and bran; stables, neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

H. B. Snow—Condition of cows, good and clean; feed, corn fodder, hay, bran and ground corn and oats; stables, neat and clean, except a little dust and a few cobwebs on ceiling; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

Walter Bailey—Condition of cows fairly good and clean; feed, cornstalks, hay and ground corn and oats; stables, just fairly neat and clean, partly whitewashed, are very dark, having no windows; yard, dry and fairly clean; drainage, good; ventilation, fair; water, well. Sells to Mrs. E. Camp.

H. P. Deering—Condition of cows, fairly good and clean; feed, ensilage, millet, hay, ground corn and oats; stables, neat and clean; partly

whitewashed; yard, clean; fairly dry; drainage, good; ventilation, good; water, spring creek. Sells to Mrs. E. Camp.

F. C. Sackrider—Condition of cows, good and clean; feed, ground corn and oats, bran, buckwheat shorts, hay and corn fodder; stables, very good, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well; uses lime as an absorbent on floors. Sells to Mrs. E. Camp.

E. R. Rhines—Condition of cows, good and clean; feed, shredded fodder, hay, ground corn and oats and bran; stables, neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to Mrs. E. Camp.

At Michigan Center:

George Sagar—Condition of cows, good and fairly clean; feed, shredded fodder, hay and bran; stables, fairly neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well.

J. Buckfink—Condition of cows, clean and fairly good; feed, shredded fodder, bran and cornmeal; stables, not very good, but fairly neat and clean; yard, clean and dry; drainage, good; ventilation, good; water, well.

E. A. Sager—Condition of cows, good and clean; feed, cut stalks, hay, bran and ground corn and oats; stables, neat and clean, partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well; milk room, neat and clean.

M. F. Ayers—Condition of cows, very good and clean; feed, cut fodder, hay, ground corn and oats, bran, shorts and crushed corn; stables, very light, neat and clean and partly whitewashed; yard, clean and dry; drainage, good; ventilation, good; water, well. Sells to J. Palmer.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consists wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound,

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound,"

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts made of more than one principle must be labeled with the name of each principle, or simply with the name of the inferior or adulterant. For example: An extract made from vanilla and tonka must be labeled "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract of vanilla and tonka as "Extract of Vanilla," or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. In all cases, it is understood that when an extract is labeled with two or more names, the type used is to be similar in size, and the name of any one of the articles used is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry pineapple, banana, etc., are prohibited by law.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel contain-

ing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

W. B. SNOW,	-	-	-	-	-	-	COMMISSIONER
GEO. H. BUSSEY,	-	-	-	-	-	DEPUTY COMMISSIONER	
R. E. DOOLITTLE,	-	-	-	-	-	STATE ANALYST	

STATE OF MICHIGAN.

DAIRY AND FOOD DEPARTMENT.

In general, the present administration of the Michigan Dairy and Food department thoroughly endorses the department's work in the past. We shall energetically continue the present policy subject to whatever changes time and conditions may demand as expedient. In the past the rule has been to enter prosecutions as far as possible against the party or parties most responsible for adulteration and violation of the law. Under the rule retail dealers who have acted in good faith in the purchase of goods and have exercised the caution which ordinary business prudence demands, will receive just consideration, and punishment be directed against the manufacturers, who are the real violators, as far as practicable.

Agents of manufacturers and jobbers who live outside the State will be treated as directly responsible for adulterated goods sold by them. Manufacturers, jobbers and distributors who live in Michigan will be held strictly accountable for their sales to the retailers and other dealers. Retailers must, however, assist the department with full and frank statements as to adulterated goods in their possession, and furnish it with the necessary proofs to establish the liability of the source of their purchases, or the retailers themselves will be held and considered wilful violators of the law.

Lately the Department notes a growing tendency on the part of retailers to repudiate the signed statements given by them to inspectors at the time samples are taken; which statements the department in the very nature of things, must assume is absolute as to where and when such goods were purchased. In the future, any attempted repudiation of such written statements, except in extraordinary cases, will be considered a lack of good faith and the responsibility for the possession of adulterated goods placed with the dealer where found.

The present system of the inspection of the milk supply of Michigan cities and villages will be carried on upon the same plan as formerly and all dealers held strictly liable for the purity of their milk sales. The use of preservatives will be prosecuted wherever found in milk.

The monthly bulletins will contain from time to time notices of

As population became denser the demand upon science to produce preservatives became more urgent, and today this demand is all-powerful. Expeditions for scientific, commercial or military purposes peremptorily demand preservatives for food for man as well as beast. The very victories attend those nations whose resources are most prolific in supplies of this kind.

Milk being one of the oldest crude foods and most desirable in its original condition, naturally became very early the subject for investigation. In countries where low temperatures were easily obtainable, a solution was easily found; the "molken" of Switzerland, have been prepared very early and are used up to the present day, being simply frozen milk, but can, of course, only be used in a region where low temperatures can be relied upon. In mountain climbing it has been found most serviceable, but for general use freezing is not employed outside of Switzerland, Sweden and Norway.

Some years ago frozen milk was delivered in London direct from Sweden especially prepared for this particular trade, but has now been abandoned. Cold, of course, is really the only preservative which, up to the present time, has not been objected to by health authorities, as it not only leaves the milk in the condition it was originally obtained, that is, no chemical change takes place, but it also arrests the growth of bacteria, against which all efforts of chemical preservatives are directed.

For city trade, the honest shipper requires no preservative; after the animal heat has escaped the cooling-well is all that is required until shipping time; railroads, especially those which make an effort to obtain and keep milk traffic, take all necessary precaution to have milk arrive at the terminal station at a proper temperature, usually much below 50 degrees F., and the development of germs is much restricted: all this, of course, requires labor, and also, of course, expense; there is, therefore, an excellent opening for the chemist and a great many preparations, compounds or chemical salts have been recommended and used; among the first used was sodium bicarbonate or baking soda, which, on account of its alkaline action, was to neutralize the work of the acidifying bacteria in milk, or neutralize such acid as has already formed, but the difficulty in using this preparation is that the proper quantity to use is difficult to determine; too much would give the milk an alkaline taste, and too little would have not sufficient effect had the milk formed lactic acid in some quantity; it is hardly ever used now. In chemical analysis of milk it is readily detected on account of the increase in the ash and the subsequent flame test. Borax has been used, before boracic acid came into use, but that has also much of the objection which is brought against bicarbonate of soda; as it is related some to borax, the latter being a sodium bicarbonate; this salt also increases the ash, and in the flame test is even more readily discovered than the former, as it gives a beautiful green color in the oxidizing flame. Boracic acid, ever since its discovery and its reputation achieved as a general antiseptic, was, and is, a great favorite with the unscrupulous as a milk preservative, and even more so as a preservative for cream, because cream is kept longer than milk; in fact, for the proper development of flavor due to a specific growth of benign micro-organism

it must be kept for some time, but it is right here where the user of a chemical preservative works his own harm, by reason that boracic acid has no selective action, but kills off, or prevents the growth of benign or well inimical bacteria. Boracic acid, though not a poison, is more powerful by reason of its acid properties in its physiological action than borax. Boracic acid is frequently sold under the name of "Preservaline" at a fancy price.

Salicylic acid is another preservative which has found favor, as it has no odor, is a white crystalline powder and nearly tasteless. When it was first discovered it was heralded as the long looked for preservative, which would solve many questions of transporting food stuffs of all kinds; the medical profession has a kindly word for it, and health authorities did not at once interdict its use. Gradually, however, its use became so extensive that fears were entertained that it would have a detrimental effect on the public health at large. In France a commission was appointed by the government to investigate its use for food stuffs, and to discover, if possible, its action on the human system. The commission soon reported that salicylic acid added to food stuffs, whether solid or liquid, should not be authorized, and its use since has been strictly forbidden. The United States Dispensatory, the acknowledged authority on pharmaceutical and chemical preparations, says: "Salicylic acid has been used for the preservation of various articles of food, but the employment of it should be interdicted. In the chemical analysis of milk, salicylic acid is readily detected by iron test solution, which produces with the acid a very decided purple color."

The most important of all preservatives which have been used in milk "to increase the keeping qualities" is, undoubtedly, formaldehyde, or as it was at first known under its patent name "formalin;" it is undoubtedly a powerful germicide, although its powers are generally overrated, its use in that direction cannot but be acknowledged. But what has been stated above in relation to the non-selective action of chemical preservatives is also true in regard to formaldehyde, it kills off, or prevents the growth of bacteria, good or bad, with a few exceptions; among these exceptional ones must be mentioned the bacillus known as "coli communis," while not present in milk itself may be present in the human intestinal tract, especially in summer time, when it is the cause of diarrhea and dysentery in children, as it sours milk. In such a case the addition of formaldehyde will enable the bacillus to flourish even if the dilution be as small as one drop to one pint of milk. This preparation is sold in the market under various names, such as "Freezine," "Preservaline," and other fancy names; it is usually guaranteed to be harmless, and it is intimated that it cannot be detected by the chemist; and, although a certain amount is directed to be added to milk, it is recommended that additional amounts can be used afterwards without harm, and it is for this reason that the use of all kinds of preservatives is to be discouraged, because an ignorant or indifferent person, thinking that by the use of a preservative milk could be kept indefinitely, would become careless in the keeping of the milk, or in the sanitary condition under which the milk is obtained, by relying upon the corrective properties of the preservative.

When preservatives are added to milk there is still another phase to be considered beside the anti-bacterial action, namely: The chemical action on the casein and albumen. Most all preservatives mentioned above harden the albumen, or casein, to such an extent as to make the digestion of the same almost impossible, giving rise to irritation in the digestive and intestinal tracts, and if this should happen in summer time, when there is always a tendency toward diarrhea and dysentery, the addition of preservatives is of the greatest possible danger; and, therefore, the use of all chemical preparations should be decidedly discouraged and frowned upon, and health authorities have, therefore, good cause to absolutely prohibit their use.

INSPECTION

The following places were visited during the months of April and May by the inspectors: Oxbow, Bay City, Detroit, Plymouth, West Bay City, Northville.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Michigan, May 31, 1901.

HON. W. B. SNOW, *Dairy and Food Commissioner:*

SIR—During the months of April and May seventeen samples of food products have been examined, five being pure and twelve adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Beans.....	1	.....	1
Chowder.....	1	.....	1
Extracts.....	1	1	.....
Jelly.....	2	1	1
Mixtures or compounds.....	1	.....	1
Molasses.....	1	1	.....
Mustard.....	2	2	.....
Pancake flour.....	1	.....	1
Plums.....	2	.....	2
Vinegar.....	5	.....	5
Totals.....	17	5	12

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

BEANS.

No. L-77. Sample of "Belle Grove Brand Golden Wax Beans" from R. J. Ferris, Bay City, Mich.

Wax beans.....	—
Water solution and salt.....	—

Label does not bear address of packer.

CLAM CHOWDER.

No. L-79. Sample of "Monarch Brand Extra Clam Chowder" from R. J. Ferris, Bay City, Michigan.

Sold by Reid, Murdock & Co., Chicago, Ill.

Clam chowder.....	—
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Label does not bear name and address of manufacturer.

JELLY.

No. K-225. Sample of "Strawberry Flavor Jelly" from A. J. Rademacher, Detroit, Mich.

Producer, Lutz & Schramm Co., Alleghany, Pa.

Water	39.28 per cent.
Ash	3.40 " "
Reducing sugar before inversion.....	39.83 " "
Reducing sugar after inversion.....	57.65 " "
Polarization before inversion.....	+60.0 degrees.
Polarization after inversion.....	+35.2 " "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly artificially colored.

PANCAKE FLOUR.

No. K-223. Sample of "Royal Tiger Brand Self Raising Pancake Flour" from J. R. Ranch & Son, Plymouth, Mich.

Sold (1900) by Phelps, Brace & Co., Detroit, Mich.

Producer, Phelps, Brace & Co., Detroit, Mich.

Wheat and corn flours.....	—
Baking powder and salt.....	—

Not properly labeled. It is a mixture or compound and should be so stated on package.

PLUMS.

No. L-80. Sample of "Iron City Brand California Egg Plums" from R. J. Ferris, Bay City, Mich.

Sold by **Gustin, Cook & Buckley, Bay City, Mich.**

Plums	_____
Syrup	_____

Label does not bear name of packer.

No. L-83. Sample of "Reindeer Brand Egg Plums" from Thomas Walsh, West Bay City, Mich.

Sold by **Reid, Murdock & Co., Chicago, Ill.**

Plums	_____
Syrup	_____

Label does not bear name of packer.

MIXTURES AND COMPOUNDS.

No. L-75. Sample of "Arctic Concentrated A. C. Strawamyl" from E. Meisel & Co., Bay City, Mich.

Sold (1900) by **Gustin, Cook & Buckley, Bay City Mich.**

Producer, **Jennings Flavoring Extract Co., Grand Rapids, Mich.**

Solid extract	7.51 per cent.
Glycerine	_____
Dilute alcohol	_____
Compound ethers	_____
Coloring matter	_____

Not properly labeled. Sample is a mixture or compound and should be so stated on label.

VINEGAR.

No. K-218. Sample of vinegar from Mrs. Nellie R. Talcott, Oxbow, Mich.

Producer, **William I. Allen, Oxbow, Mich.**

Specific gravity	1.0123
Acid, as acetic	5.68 per cent.
Total solids	1.42 " "
Ash	0.36 " "

Below the standard in solids.

No. K-219. Sample of vinegar from Mrs. Nellie R. Talcott, Oxbow, Mich.

Producer, **William I. Allen, Oxbow, Mich.**

Specific gravity	1.0058
Acid, as acetic	2.85 per cent.
Total solids	1.09 " "
Ash	0.34 " "

Below the standard in solids and in acid strength.

No. K-220. Sample of vinegar from Mrs. Nellie R. Talcott, Oxbow, Mich.

Producer, **William I. Allen, Oxbow, Mich.**

Specific gravity	1.0041
Acid, as acetic	0.65 per cent.
Total solids	1.10 " "
Ash	0.35 " "

Below the standard in solids and in acid strength.

No. K-221. Sample of vinegar from B. A. Wheeler, Northville, Mich.
 Producer, **B. A. Parmenter & Son, Northville, Mich.**

Specific gravity	1.0158
Acid, as acetic.....	2.81 per cent.
Total solids	2.89 " "
Ash	0.53 " "

Below the standard in acid strength.

No. K-222. Sample of Vinegar from Fry Bros. & Co., Northville, Mich.
 Sold by **B. A. Parmenter & Son, Northville, Mich.**
 Producer, **B. A. Parmenter & Son, Northville, Mich.**

Specific gravity	1.0173
Acid, as acetic	3.65 per cent.
Total solids	2.81 " "
Ash	0.44 " "

Below the standard in acid strength.

CHEESE FACTORY AND CREAMERY REGISTRATION.

(Extract from Act No. 193, Public Acts, 1895.)
(As amended by Act No. 118, Public Acts, 1897.)

(C. L., 5015) SEC. 6. Every manufacturer of full milk cheese may put a brand upon each cheese, indicating "Full milk cheese," and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. It shall be the duty of the proprietor of every cheese factory, creamery or butter factory in the State where milk or cream is purchased of or contributed by three or more persons, to register the location of such cheese factory, creamery or butter factory, and the name of its owner or manager with the Dairy and Food Commissioner on or before the first day of October, A. D. eighteen hundred ninety-seven, and on or before the first day of April in each year thereafter. Whoever violates any of the provisions of this section, in so far as it relates to registration, shall be deemed guilty of a misdemeanor, and for each and every offense shall be punished by a fine of not less than five dollars nor more than twenty-five dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days or both.

(C. L., 5016) SEC. 7. The Dairy and Food Commissioner shall procure and issue to the cheese manufacturers of the State, on proper application, which application shall be made on or before the first day of October, A. D. eighteen hundred ninety-five, and on or before the first day of April in each year thereafter, and under such regulation as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto, and the words "Michigan full cream cheese." Every such brand shall be used on the outside of the cheese, and upon the package containing the same, and shall bear a separate number for each separate factory. The said commissioner shall keep a book in which shall be registered the name, location and number of each manufactory using the brand, and the name or names of persons at each factory authorized to use the same. No such brand shall be used on other than full cream cheese or packages containing the same. The commissioner shall receive a fee of one dollar for each registration, said fee to be paid by the party applying for the same, which amount shall be accounted for and used as a part of the fund appropriated for the enforcement of the laws of this State with which the Dairy and Food Commissioner is charged.

(C. L., 5017) SEC. 8. No person shall knowingly offer, sell or expose for sale, in any package, cheese which is falsely branded or labeled.

STATE OF MICHIGAN.

SAGINAW COUNTY.

Union Cheese Mfg. Co.,	Saginaw,	John Neuchterlein.
Chapin Cheese Factory,	Chapin,	J. B. Hoffman.
Frankenmuth Cheese Factory,	Frankenmuth,	L. Hubinger.
Birch Run Cheese Factory,	Birch Run,	Geo. M. Fisher.
Frankentrost Cheese Co.,	Kulmbach,	F. C. Moll.
Crescent Cheese Factory,	Saginaw,	H. M. Schmidt.
Buena Vista Cheese Co.,	Buena Vista,	John Leidlein.
Oakley Cheese Factory,	Oakley,	J. B. Hoffman.

TUSCOLA COUNTY.

E. G. Fox & Son Cheese Factory,	Mayville,	E. G. Fox & Son.
Tuscola Cheese Factory,	Tuscola,	G. W. Dimond.
Arbela Cheese Factory,	Clio,	J. A. Pickett.
Silverood Cheese Factory,	Mayville,	Chas. Reitz.

VAN BUREN COUNTY.

Base line Cheese Factory,	Bloomingtondale,	Lynn Reid.
Haven's Cheese Factory,	Bloomingtondale,	E. A. Haven.

WASHTENAW COUNTY.

J. A. Robins' Cheese Factory,	Whitmore Lake,	J. A. Robins.
Excelsior Cheese Factory,	Willis,	H. S. Day.

SHIAWASSEE COUNTY.

Vernon Cheese Factory,	Vernon,	J. B. Hoffman.
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WAYNE COUNTY.

Waltz Cheese Factory,	Waltz,	Waltz & Ziegler.
Power Factory,	Northville,	O. D. Power.

CREAMERIES.

ALLEGAN COUNTY.

<i>Name.</i>	<i>Location.</i>	<i>Owner or Manager.</i>
Monterey Butter Factory,	South Monterey,	H. C. McAlpine.
The Bradley Creamery Co.,	Bradley,	S. S. Fox.
The Hilliards Creamery Co.,	Hilliards,	H. E. Parmelee.
Martin Creamery Co.,	Martin,	A. C. Monteith.
Dorr Creamery,	Dorr,	E. S. Bottsford.

BARRY COUNTY.

Nashville Creamery Co.,	Nashville,	C. W. Smith.
Freeport Creamery Co.,	Freeport,	Freeport Creamery Co.
Woodland Creamery Co.,	Woodland,	B. S. Holly.

BERRIEN COUNTY.

Three Oaks Creamery Co.,
Galien Creamery Co. (L'td.),
Pipestone Jersey Creamery,

Three Oaks,
Galien,
Pipestone,

Almon Wright.
E. A. Blakeslee.
Geo. T. Yetter.

CLINTON COUNTY.

Westphalia Creamery Co.,
Maple River Creamery,
Looking Glass Creamery,

Westphalia,
Ovid,
DeWitt,

Westphalia Creamery Co.
A. M. Smith & Co.
Luther W. Sibley.

EATON COUNTY.

Vermontville Creamery Co.,

Vermontville,

C. E. Hammond.

GENESEE COUNTY.

Gibsonville Altruist Com. Creamery, Grand Blanc,
Goodrich Creamery, Goodrich,

Gibsonville Altruist Com.
W. A. Cook.

HILLSDALE COUNTY.

Waldron Creamery Co.,
Litchfield Butter Co.,

Waldron,
Litchfield,

S. D. Spray.
C. G. Holkins.

* IONIA COUNTY.

Saranac Dairy Co.,

Saranac,

Henry Frace.

KALAMAZOO COUNTY.

Alamo Valley Creamery,
Kalamazoo Creamery Co.,

Alamo,
Kalamazoo,

M. F. Bachelder.
Samuel Van Bochove.

KENT COUNTY.

Co-operative Farmers' Creamery,

Caledonia,

Chas. R. Webb.

LAPEER COUNTY.

Burnside Creamery,

Burnside,

Asa E. Piper.

LENAWEE COUNTY.

Reed Farm Creamery,
Locust Farm Creamery,
Cadmus Creamery,
Tecumseh Creamery,

Cadmus,
Sand Creek,
Cadmus,
Tecumseh,

F. J. Reed.
A. B. Graham.
L. McLouth & Son.
Edw. Mott & Co.

MONTCALM COUNTY.

Lakeview Creamery,

Lakeview,

C. M. Northrop.

MONROE COUNTY.

Monroe Butter Factory,
Macon Creamery,
South Lockwood Creamery,
Excelsior Creamery Co.,

Monroe,
Dundee,
South Lockwood,
Ida,

J. A. Reiger,
A. H. Curtis.
John Strong & Son.
W. G. Hoffman.

STATE OF MICHIGAN.

MACOMB COUNTY.

Richmond Creamery Co.,	Richmond,	G. M. Grennia.
New Haven Elgin Creamery Co.,	New Haven,	F. A. Luttenbacher.

OTTAWA COUNTY.

Jamestown Co-op. Creamery,	Zutphen,	Jac. Nyenheis.
Allendale Creamery,	Allendale,	Mrs. E. L. Pierson.
Crisp Creamery Co.,	Crisp,	Wybe Nienhuis.
Hudsonville Creamery Ass'n,	Hudsonville,	C. H. Kelley.
Coopersville Creamery Co.,	Coopersville,	F. P. Peck.

SAGINAW COUNTY.

Gera Creamery,	Gera,	John M. Geyer.
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ST. CLAIR COUNTY.

St. Clair Creamery,	St. Clair,	John F. Ruff.
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SANILAC COUNTY.

Marlette Creamery,	Marlette,	A. E. Piper & Co.
Brown City Creamery,	Brown City,	A. E. Piper.

SHIAWASSEE COUNTY.

Vernon Creamery,	Vernon,	P. E. Kirkham.
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TUSCOLA COUNTY.

Vernon Creamery,	Vassar,	James H. Moore.
Reese Creamery,	Reese,	Henry Munger.
Caro Elgin Butter Co.,	Caro,	C. O. Thomas.

VAN BUREN COUNTY.

Berlamont Creamery Co.,	Berlamont,	Chas Linton.
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WASHTENAW COUNTY.

Ypsilanti Dairy Ass'n,	Ypsilanti,	H. D. Platt.
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CHEESE REGISTRATION.

*Registered in Michigan with privilege to use the "Michigan Full Cream Cheese" brand
from April 1, 1899, to April 1, 1900.*

Name.	Location.—County.	Postoffice address.	Brand No
J. A. Pickett.....	Genesee.....	Clio.....	1
J. H. Jenkins.....	Lenawee.....	Rome Center.....	2
M. W. Hickes.....	Allegan.....	Hopkins.....	3
E. A. Haven.....	Van Buren.....	Bloomingsdale.....	5
S. Browners.....	Ottawa.....	Zeeland.....	7
E. L. Baker.....	Lenawee.....	Adrian.....	10
F. C. Moll.....	Saginaw.....	Kulmbach.....	13
O. M. Field.....	Genesee.....	Clio.....	14
Lynn Reid.....	Van Buren.....	Bloomingsdale.....	16
O. L. Foster.....	Lenawee.....	Hudson.....	17
John Leidlein.....	Saginaw.....	Buena Vista.....	21
Miller & Leggett.....	Allegan.....	Hopkins.....	23
John Berger.....	Bay.....	Amelith.....	29
S. T. Jones.....	Huron.....	Port Hope.....	33
T. T. Goodfellow.....	Genesee.....	Grand Blanc.....	41
H. P. Fitzpatrick.....	Montcalm.....	Carson City.....	44
H. S. Day.....	Washtenaw.....	Willis.....	56
H. W. Smith.....	Monroe.....	Dundee.....	59
O. D. Chester.....	Hillsdale.....	Camden.....	62
G. W. Dimond.....	Tuscola.....	Tuscola.....	68
Geo. Parry.....	Arenac.....	Standish.....	78
F. P. Mankin.....	Allegan.....	Hopkins.....	79
J. M. Fitzpatrick.....	Montcalm.....	Butternut Cheese Factory.....	45
Waltz & Ziegler.....	Wayne.....	Waltz Cheese Factory.....	50
C. C. Colvin.....	Lenawee.....	Clayton Cheese Factory.....	86
Fred Steele.....	Montcalm.....	Trufant.....	25
J. H. Flah.....	Clinton.....	Eagle.....	24
H. M. Cole.....	Hillsdale.....	Pittsford.....	69
L. S. Hills.....	Barry.....	Irving.....	35
E. N. Bates.....	Allegan.....	Moline.....	22
Frank Potts.....	Lenawee.....	Cadmus.....	54
H. E. Taylor.....	Cass.....	Cushing.....	32
B. L. Peebles.....	Lenawee.....	Rollin.....	40
J. B. Hoffman.....	Shiawassee.....	Vernon.....	8
J. B. Hoffman.....	Saginaw.....	Oakley.....	27
J. B. Hoffman.....	Saginaw.....	Chapin.....	47
John Machterlein.....	Saginaw.....	Saginaw, R. F. D., 4—0.125.....	37
J. A. Robins.....	Washtenaw.....	Whitmore Lake.....	80
Bickel & Voss.....	Bay.....	Monitor.....	55
Tarolli & Co.....	Bay.....	Monitor.....	55

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consist wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound,"

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts of Vanilla and Tonka may be mixed and sold as "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract vanilla and tonka as "Extract of Vanilla" or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. It must be understood that when an extract of vanilla and tonka is labeled with both names, the type used is to be similar in style and size, and that one name is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., are prohibited by law.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poisons."

No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

The following laws pertaining to the Dairy and Food Department were enacted at the session of the Legislature just closed and were approved by the Governor:

An Act to prevent Deception in the Manufacture and Sale of Imitation Butter.

The People of the State of Michigan enact:

SECTION 1. No person by himself or his agents, or servants, shall render or manufacture, sell, offer for sale, expose for sale, or have in his possession with intent to sell, any article, product or compound made wholly or in part out of any fat, oil or oleaginous substance or compound thereof, not produced from unadulterated milk or cream from the same, which shall be in imitation of yellow butter produced from pure unadulterated milk or cream of the same: *Provided*, That nothing in this act shall be construed to prohibit the manufacture or sale of oleomargarine in a separate and distinct form, and in such manner as will advise the consumer of its real character, free from coloration or ingredient that causes it to look like butter.

SEC. 2. Whoever violates any of the provisions of section one of this act shall be deemed guilty of a misdemeanor, and upon conviction thereof, shall be punished by a fine of not less than fifty dollars nor more than five hundred dollars, and the costs of prosecution, or by imprisonment in the county jail or State House of Correction and Reformatory at Ionia for not less than six months nor more than three years, or by both such fine and imprisonment in the discretion of the court, for each and every offense.

An Act for the prevention and suppression of foul brood among bees in the State of Michigan, and the inspection thereof.

The People of the State of Michigan enact:

SECTION 1. Upon the recommendation of a majority vote of the members of the Michigan State Beekeepers' Association, the Dairy and Food Commissioner shall appoint an inspector of apiaries.

SEC. 2. The inspector shall, when notified, examine all reported apiaries, and all others in the same locality not reported, and ascertain whether or not the disease known as foul brood or other contagious diseases exist in such apiaries, and if satisfied of the existence of foul brood, he shall give the owners or caretakers of the diseased apiaries full instructions how to treat said cases, as in the inspector's judgment seems best.

SEC. 3. The inspector, who shall be sole judge, shall visit all diseased apiaries a second time, and, if need be, burn all colonies of bees and combs that he may find not cured of foul brood, or other contagious diseases. The payment for bees so destroyed to be at five per cent of their value as estimated by the inspector, to be paid out of the appropriation provided by this bill.

SEC. 4. If the owner of a diseased apiary, honey, or appliances, shall sell, barter or give away, any bees, honey or appliances or expose other bees to the danger of said disease, or refuse to allow said inspector to inspect such apiary, honey or appliances, said owner shall, on conviction before a justice of the peace, be liable to a fine of not less than fifty dollars nor more than one hundred dollars, or not less than one month's imprisonment in the county jail, nor more than two months' imprisonment.

SEC. 5. The inspector of apiaries shall make an annual report to the Dairy and Food Commissioner, giving the number of apiaries visited, the number of diseased apiaries found, the number of colonies treated, also the number of colonies destroyed by fire, and his expenses.

SEC. 6. There is hereby appropriated out of any moneys in the State treasury, not otherwise appropriated, a sum not exceeding five hundred dollars per year, for the suppression of foul brood among bees in Michigan. Said inspector shall receive three dollars per day, and traveling expenses, for actual time served, which sum shall not exceed the moneys hereby appropriated, to be paid by the State Treasurer, upon warrants drawn and approved by the Governor.

SEC. 7. Act number one hundred forty-one of the public acts of eighteen hundred eighty-one, being chapter sixty-two of Howell's annotated statutes, is hereby repealed.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

1901
WYNKOOP HALLENBECK CRAWFORD CO. OF LANSING, MICH.
STATE PRINTERS

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

W. B. SNOW,	-	-	-	-	-	-	-	COMMISSIONER
GEO. H. BUSSEY,	-	-	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	-	-	STATE ANALYST

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1900.

Cases pending July 1, 1900.....	18
Cases commenced since said date	65
Cases nolle prossed	6

CASES DISPOSED OF.

Before Examining Magistrates... 42	{ Defendants bound over to trial courts...	41
	{ Defendants discharged on examination..	1
In Trial Courts..... 20	{ Defendants convicted.....	17
	{ Defendants acquitted.....	3
Cases pending July 1, 1901.....		56

PROCEEDINGS HAD DURING THE MONTH OF JUNE, 1901.

In the case pending in the circuit court for the county of Chippewa, against George Watson, charged with having sold adulterated milk, came up for trial on the 5th inst., before Judge Steere and a jury. Defendant was acquitted.

The case pending in the circuit court in the county of Wayne, against Putnam H. Childs, charged with having sold adulterated milk, was, on the 30th day of June on motion of the prosecuting attorney, nolle prossed.

INSPECTIONS

The following places were visited by the department's inspection force during the month of June:

Bay City, Detroit, Hart, Manistee, Montague, Muskegon, Pentwater, Saginaw, Shelby, Whitehall.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Michigan, June 31, 1901.

HON. W. B. SNOW, *Dairy and Food Commissioner:*

SIR—During the month of June, fifty samples of food products have been examined, fifteen being pure and thirty-five adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Allspice.....	1	1	1
Cinnamon.....	1	1	2
Coffee.....	2	3	9
Extracts (flavoring).....	13		
Jellies and fruit butter.....	2		2
Mixtures and compounds.....	1		1
Molasses.....	1	1	
Mustard.....	7	2	5
Mustard (prepared).....	3	2	1
Peaches.....	2		2
Pepper.....	6	2	4
Syrup.....	2		2
Vinegar.....	10	4	6
Totals.....	50	15	35

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSES OF SAMPLES.

GROUND CINNAMON.

No. L-94. Sample of ground cinnamon from Frank Cushnock, Manistee, Michigan.

Sold by **Mendel, Smith & Co., Milwaukee.**
 Producer, **Mendel, Smith & Co., Milwaukee.**

Total ash	5.63	per cent.
Starch	27.50	" "

Microscopical examination shows presence of foreign starchy matter.

COFFEE.

No. R-11. Sample of "Trash Pea Berry Coffee" from Walther's Great Cheap Store, Bay City, Michigan.

Sold by **Reid, Murdock & Co., Chicago, Ill.**

Total ash	12.68	per cent.
Stones	7.15	" "
Immature coffee berries, husks, etc.	25.00	" "
Coffee berries (low grade)	67.85	" "

Low grade coffee containing stones, husks and immature berries.

EXTRACTS.

No. L-85. Sample of "Extract of Banana" from H. E. Muker & Co., Bay City, Michigan.

Sold (1900) by **Joseph Burnett & Co., Boston, Mass.**
 Producer, **Joseph Burnett & Co., Boston, Mass.**

Solids	0.01	per cent.
Dilute alcohol	—	
Compound ethers	—	

An artificial preparation.

No. L-88. Sample of "Pure Concentrated Extract of Tonka and Vanilla" from Kelly & Co., Bay City, Michigan.

Producer, **Trade Extract Co., New York, N. Y.**

Vanillin	None.	
Coumarin	0.063	per cent.
Vanilla resin	None.	
Organic acid, gums, etc.	None.	
Color	Foreign.	

An artificial preparation.

No. L-89. Sample vanilla extract, "Winter" brand, from Will A. Waite, Manistee, Michigan.

Sold (1901) by **Sprague, Warner & Co., Chicago, Ill.**

Coumarin	None.
Vanillin	0.150 per cent.

Label does not bear address of manufacturer.

No. L-96. Sample of "Gurney's Standard Tonka Vanilla" from P. N. Jacobson, Manistee, Michigan.

Sold (1900) by **Puhl, Webb & Co., Chicago, Ill.**

Producer, **Puhl, Webb & Co., Chicago, Ill.**

Coumarin	0.027 per cent.
Vanillin	0.178 " "
Color	Foreign.

Contains foreign coloring matter.

No. R-16. Sample of "Purity Concentrated Extract of Vanilla" from Whiting & Meyers, Bay City, Michigan.

Producer, **E. W. Gillett, Chicago, Ill.**

Coumarin	None.
Vanillin	0.068 per cent.

Label does not bear name and address of manufacturer.

No. R-17. Sample of "Ethereal Concentrated Extract of Strawberry" from Theo. Lankey, West Bay City, Michigan.

Producer, **John DeBoe & Co., Grand Rapids, Mich.**

Solids	8.53 per cent.
Glycerine	—
Dilute alcohol	—
Compound ethers	—
Coloring matter	—

An artificial preparation.

No. R-20. Sample "Harris' Pure Extract Strawberry" from John Richards, Bay City, Michigan.

Sold (1900) by **Gustin, Cook & Buckley, Bay City, Mich.**

Producer, **Frank E. Harris, Binghamton, N. Y.**

Solids	8.04 per cent.
Alcohol	—
Artificial flavoring	—
Coloring matter	—

An artificial preparation.

No. R-23. Sample "Standard Concentrated Extract Lemon" from W. T. Glaza, Bay City, Michigan.

Sold (1901) by **Meisel & Goeschal, Bay City, Mich.**

Producer, **Oriental Chemical Works, ———.**

Solids	0.58 per cent.
Dilute alcohol	—
Oil of lemon	—
Coloring matter	—

Label does not bear the address of manufacturer.

STATE OF MICHIGAN.

No. R-24. Sample of "Standard Mills Extract Vanilla and Tonka" from W. T. Glaza, Bay City, Michigan.

Sold (1901) by **Gustin, Cook & Buckley, Bay City, Mich.**

Coumarin	0.032 per cent.
Vanillin	0.014 " "

Label does not bear name or address of manufacturer.

FRUIT JELLY AND FRUIT BUTTER.

No. R-12. Sample of "Fruit Jelly, Imitation Plums" from F. C. Haering, Bay City, Michigan.

Sold (1901) by **Gustin, Cook & Buckley, Bay City, Mich.**

Producer, **Exley, Watkins & Co., Wheeling, W. Va.**

Water	45.25 per cent.
Ash	0.67 " "
Reducing sugar before inversion.....	38.96 " "
Reducing sugar after inversion.....	39.48 " "
Polarization before inversion.....	+90.0 degrees.
Polarization after inversion.....	+83.6 " "
Color	Artificial.

"Imitation fruit jelly" artificially colored.

No. R-22. Sample peach butter from G. B. Niedzielski, Bay City, Michigan.

Sold (1901) by **Walsh, Tanner & Daily, Bay City, Mich.**

Producer, **E. G. Dailey & Co., Detroit, Mich.**

Total solids	61.95 per cent.
Ash	1.00 " "
Reducing sugar before inversion.....	30.29 " "
Reducing Sugar after inversion.....	33.49 " "
Polarization before inversion.....	+76.08 degrees.
Polarization after inversion.....	+63.80 " "
Starch paste	Present.

"Imitation fruit butter." Not properly labeled.

MUSTARD.

No. R-1. Sample "Special Mustard" from Max Berling, Bay City, Michigan.

Producer, **Bennett, Sloan & Co., New York, N. Y.**

Ash	6.13 per cent.
Mustard	—
Turmeric	—

Colored with turmeric.

No. R-8. Sample of "East India Mills Mustard" from Stone & Henning, Bay City, Michigan.

Producer, **East India Mills.**

Ash	5.13 per cent.
Total starch	35.69 " "
Mustard	—
Turmeric	—

Adulterated with corn and wheat starches and turmeric.

No. R-27. Sample of mustard from Great Atlantic and Pacific T Co., Saginaw E. S., Michigan.

Ash	4.00 per cent.
Wheat starch	36.73 " "
Mustard	—
Turmeric	—

Adulterated with wheat starch and turmeric.

No. R. 29. Sample of mustard from M. Fitzgerald, Saginaw E. S., Michigan.

Ash	4.47 per cent.
Total starch	73.58 " "
Mustard	—
Turmeric	—

Adulterated with corn and wheat starches and turmeric.

No. R-30. Sample of mustard from M. Fitzgerald, Saginaw E. S., Michigan.

Ash	5.65 per cent.
Mustard	—
Turmeric	—

Colored with turmeric.

MUSTARD—(Prepared.)

No. R-14. Sample of "Horseradish Mustard" from M. L. Debats, Bay City, Michigan.

Producer, **The J. Weller Co., Cincinnati, Ohio.**

Total solids	23.24 per cent.
Ash	4.20 " "
Mustard	—
Horseradish	—
Vinegar	—
Spices and turmeric	—

Not properly labeled.

PEACHES.

No. R-13. Sample of "Iron City Brand California Yellow Peaches" from C. D. Richardson, Bay City, Michigan.

Sold by **W. I. Brotherton & Co., Bay City, Mich.**

Peaches	—
Syrup	—

Label does not bear packer's name.

No. R-15. Sample "Violet Brand California Yellow Peaches" from Whiting & Meyers, Bay City, Michigan.

Sold (1901) by **Ward L. Andrus & Co., Detroit, Mich.**

Peaches	—
Syrup	—

Label does not bear name of packer.

MIXTURES OR COMPOUNDS.

No. R-4. Sample of "Alpha Home Pudding" from Frank C. Tucker, Bay City, Michigan.

Sold (1901) by **Meisel & Goeschel, Bay City, Mich.**
 Producer, **Home Cocoanut Co., Jersey City, N. J.**

Sugar	—
Cornstarch	—
Shredded cocoanut	—
Chocolate	—

Sample is a mixture or compound. Nothing on label to show that it is such.

PEPPER.

No. L-95. Sample of "Tiger Brand Ground Pepper" from Nicholes Jack, Manistee, Michigan.

Ash	4.00	per cent.
Starch	17.50	" "
Volatile ether extracts	2.10	" "
Non-volatile ether extracts	8.82	" "
Crude fiber	27.58	" "

Microscopical examination shows presence of rice, corn, wheat, cayenne pepper, and foreign hulls.

No. R-2. Sample of black pepper from Max Berling, Bay City, Michigan.
Producer, Bennett, Sloan & Co., New York, N. Y.

Total ash	7.06	per cent.
Ash insoluble in hydrochloric acid (sand)	1.76	" "
Total starch	37.00	" "
Volatile ether extract	1.51	" "
Non-volatile ether extract	5.77	" "
Crude fiber	14.24	" "

Microscopical examination shows presence of wheat.

No. R-9. Sample of "L. S. Pepper" from Alex McDonald, Bay City, Michigan.
Producer, Edwin J. Gillies & Co., New York, N. Y.

Total ash	11.53	per cent.
Ash insoluble in hydrochloric acid (sand)	4.45	" "
Total starch	15.02	" "
Volatile ether extract	0.82	" "
Non-volatile ether extract	6.70	" "
Crude fiber	19.29	" "

Contains excess of pepper shells.

No. R-19. Sample of black pepper from Geo. A. Fulker, Bay City, Michigan.
Sold (1901) by Gustin, Cook & Buckley, Bay City, Mich.
Producer, Patapasco Spice Mills, Baltimore, Md.

Total ash	8.01	per cent.
Starch	10.60	" "
Volatile ether extract	1.07	" "
Non-volatile ether extract	5.17	" "
Crude fiber	21.76	" "

Sample is ground pepper shells.

SYRUP.

No. L-91. Sample of "Diamond Drips" from H. Sorkness, Manistee, Michigan.
Sold (1900) by Wellauer & Hoffmann Co., Milwaukee, Wis.
Producer, Wellauer & Hoffmann Co., Milwaukee, Wis.

Water	23.05	per cent.
Ash	0.80	" "
Reducing sugar before inversion	47.60	" "
Reducing sugar after inversion	49.23	" "
Polarization before inversion	+147.0	degrees.
Polarization after inversion	+138.6	" "

Glucose mixture.

No. L-93. Sample of "Extra Corn Syrup" from L. Bauer, Manistee, Michigan.
 Sold (1901) by **W. M. Hoyt Co., Chicago, Ill.**
 Producer, **W. M. Hoyt Co., Chicago, Ill.**

Water	25.52	per cent.
Ash	0.80	" "
Reducing sugar before inversion.....	39.85	" "
Reducing sugar after inversion.....	45.73	" "
Polarization before inversion.....	+148.4	degrees.
Polarization after inversion.....	+139.7	" "

Glucose mixture.

VINEGAR.

No. L-86. Sample of vinegar from A. Applebee & Co., Bay City, Michigan.

Specific gravity	1.0097	
Acid, as acetic	3.65	per cent.
Total solids	1.21	" "
Ash	0.21	" "

Below the standard in solids, ash and acid strength.

No. R-26. Sample of cider vinegar from Frank Delocei, Saginaw E. S., Michigan.

Specific gravity	1.0106	
Acid, as acetic	2.76	per cent.
Total solids	2.04	" "
Ash	0.30	" "

Below the standard in acid strength.

No. R-28. Sample of cider vinegar from M. Fitzgerald, Saginaw E. S., Michigan.

Specific gravity	1.0061	
Acid, as acetic	2.33	per cent.
Total solids	1.51	" "
Ash	0.33	" "

Below the standard in solids and acid strength.

No. R-32. Sample of cider vinegar from Heller & Heller, Saginaw E. S., Michigan.

Sold (1901) by **Symons Bros. & Co., Saginaw, Mich.**
 Producer, **Watson & Gordon Vinegar Co., Detroit, Mich.**

Specific gravity	1.0149	
Acid, as acetic	3.60	per cent.
Total solids	2.68	" "
Ash	0.36	" "

Below the standard in acid strength.

No. R-33. Sample of "Apple Juice Cider Vinegar" from Schwemer & Witt, Saginaw E. S., Michigan.

Sold (1901) by **Sprague, Warner & Co., Chicago, Ill.**
 Producer, **Barrett & Barrett, Benton Harbor, Mich.**

Specific gravity	1.0116	
Acid, as acetic	3.50	per cent.
Total solids	1.62	" "
Ash	0.45	" "

Below standard in solids and acid strength.

No. R-34. Sample of cider vinegar from Symons Bros. & Co., Saginaw E. S., Michigan.

Producer, **Watson Gordon Vinegar Co., Detroit, Mich.**

Specific gravity	1.0149	
Acid, as acetic	3.55	per cent.
Total solids	2.47	" "
Ash	0.35	" "

Below standard in acid strength.

CHEESE FACTORY AND CREAMERY REGISTRATION.

(Extract from Act No. 193, Public Acts, 1895.)
(As amended by Act No. 118, Public Acts, 1897.)

(C. L., 5015) SEC. 6. Every manufacturer of full milk cheese may put a brand upon each cheese, indicating "Full milk cheese," and no person shall use such a brand upon any cheese made from milk from which any of the cream has been taken. It shall be the duty of the proprietor of every cheese factory, creamery or butter factory in the State where milk or cream is purchased of or contributed by three or more persons, to register the location of such cheese factory, creamery or butter factory, and the name of its owner or manager with the Dairy and Food Commissioner on or before the first day of October, A. D. eighteen hundred ninety-seven, and on or before the first day of April in each year thereafter. Whoever violates any of the provisions of this section, in so far as it relates to registration, shall be deemed guilty of a misdemeanor, and for each and every offense shall be punished by a fine of not less than five dollars nor more than twenty-five dollars and the costs of prosecution, or by imprisonment in the county jail for not more than thirty days or both.

(C. L., 5016) SEC. 7. The Dairy and Food Commissioner shall procure and issue to the cheese manufacturers of the State, on proper application, which application shall be made on or before the first day of October, A. D. eighteen hundred ninety-five, and on or before the first day of April in each year thereafter, and under such regulation as to the custody and use thereof as he may prescribe, a uniform stencil brand, bearing a suitable device or motto, and the words "Michigan full cream cheese." Every such brand shall be used on the outside of the cheese, and upon the package containing the same, and shall bear a separate number for each separate factory. The said commissioner shall keep a book in which shall be registered the name, location and number of each manufactory using the brand, and the name or names of persons at each factory authorized to use the same. No such brand shall be used on other than full cream cheese or packages containing the same. The commissioner shall receive a fee of one dollar for each registration said fee to be paid by the party applying for the same, which amount shall be accounted for and used as a part of the fund appropriated for the enforcement of the laws of this State with which the Dairy and Food Commissioner is charged.

(C. L., 5017) SEC. 8. No person shall knowingly offer, sell or expose for sale, in any package, cheese which is falsely branded or labeled.

CHEESE FACTORIES, CREAMERIES AND BUTTER FACTORIES.

(Registered March 31, 1901.)

CHEESE FACTORIES.

ALLEGAN COUNTY.

<i>Name.</i>	<i>Location.</i>	<i>Owner or Manager.</i>
Riverside Cheese Factory,	Hopkins,	F. P. Mankin.
Spring Hill Cheese Factory,	Hopkins,	Miller & Leggett.
Springdale Cheese Factory,	Hopkins,	M. W. Hicks,
Moline Cheese Factory,	Moline,	E. N. Bates.

ARENAC COUNTY.

Elm Grove Cheese Factory,	Standish,	Mich. Mfg. & Merc. Co.
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BARRY COUNTY.

Irving Cheese Factory,	Irving,	L. S. Hills,
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BAY COUNTY.

Half Way Cheese Factory,	Monitor,	Tarolli & Co.
Bickel & Voss Cheese Factory,	Monitor,	Bickel & Voss.
Berger's Cheese Factory,	Amelith,	John Berger.

CASS COUNTY.

Silver Creek Cheese Factory,	Cushing,	H. E. Taylor.
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CLINTON COUNTY.

Eagle Cheese Factory,	Eagle,	J. H. Fish.
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GENESEE COUNTY.

State Road Cheese Factory,	Clio,	O. M. Field.
Grand Blanc Cheese Factory,	Grand Blanc,	T. T. Goodfellow.

GRATIOT COUNTY.

Elm Hall Cheese Factory,	Elm Hall,	Thos. J. Blair.
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HILLSDALE COUNTY.

Bennett Cheese Factory,	Camden,	O. F. Foster.
Camden Cheese Factory,	Camden,	O. D. Chester.
Pittsford Cheese Co., limited,	Pittsford,	H. M. Cole.

HURON COUNTY.

Port Hope Cheese Factory,	Port Hope,	S. T. Jones.
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JACKSON COUNTY.

Liberty Cheese Factory,	Liberty,	Silas Davis Jr.
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STATE OF MICHIGAN.

KENT COUNTY.

North Dow Cheese Factory,

Dow,

Louis Hildebrand.

LENAWEE COUNTY.

Rollin Cheese Factory,
 Clayton Cheese Factory,
 Paragon Cheese Factory,
 Bennett Cheese Factory,
 Rome Center Cheese Factory,
 Riverside Cheese Factory,
 Acme Cheese Factory,
 Cadmus Cheese Factory,

Rollin,
 Clayton,
 Addison,
 Hudson,
 Rome Center,
 Adrian,
 Fairfield,
 Cadmus,

B. L. Peebles.
 C. C. Colvin.
 Smith & Strong.
 O. L. Foster.
 J. H. Jenkins.
 E. L. Baker.
 J. H. Green.
 Frank Potts.

LIVINGSTON COUNTY.

Hamburg Cheese Factory,

Hamburg,

E. C. Insee.

MECOSTA COUNTY.

Remus Cheese Factory,

Remus,

Philips & Chapin.

MONROE COUNTY.

Dundee Cheese Factory,
 Grape Cheese Factory,
 Strasburg Cheese Factory,
 Maybee Cheese Factory,

Dundee,
 Grape,
 Strasburg,
 Maybee,

H. W. Smith.
 D. A. Jenkins.
 D. A. Jenkins.
 D. A. Jenkins.

MONTCALM COUNTY.

Trufant Cheese Factory,
 Butternut Cheese Factory,
 Carson City Cheese Factory,

Trufant,
 Butternut,
 Carson City,

Fred Steele.
 J. M. Fitzpatrick.
 H. P. Fitzpatrick.

OAKLAND COUNTY.

Wixom Cheese Factory,
 Warner's Franklin Factory,
 Warner's Novi Factory,
 Power's South Lyon Factory,
 Beddow Cheese Factory,
 Warner's Springbrook Factory,

Wixom,
 Franklin,
 Novi,
 Northville,
 Beddow,
 Farmington,

H. A. Smith.
 Fred M. Warner.
 Fred M. Warner.
 O. D. Power & Son.
 J. M. Beddow.
 Fred M. Warner.

OTTAWA COUNTY.

Zeeland Cheese Factory,

Zeeland,

S. Browners.

SAGINAW COUNTY.

Union Cheese Mfg. Co.,
 Chapin Cheese Factory,
 Frankenmuth Cheese Factory,
 Birch Run Cheese Factory,
 Frankentrost Cheese Co.,
 Crescent Cheese Factory,
 Buena Vista Cheese Co.,
 Oakley Cheese Factory,

Saginaw,
 Chapin,
 Frankenmuth,
 Birch Run,
 Kulmbach,
 Saginaw,
 Buena Vista,
 Oakley,

John Neuchterlein.
 J. B. Hoffman.
 L. Hubinger.
 Geo. M. Fisher.
 F. C. Moll.
 H. M. Schmidt.
 John Leidlein.
 J. B. Hoffman.

SANILAC COUNTY.

Downington Cheese Factory,

Downington,

H. Muir.

SHIAWASSEE COUNTY.

Vernon Cheese Factory,

Vernon,

J. B. Hoffman.

TUSCOLA COUNTY.

E. G. Fox & Son Cheese Factory,	Mayville,	E. G. Fox & Son.
Tuscola Cheese Factory,	Tuscola,	G. W. Dimond.
Arbela Cheese Factory,	Clio,	J. A. Pickett.
Silverood Cheese Factory,	Mayville,	Chas. Reitz.

VAN BUREN COUNTY.

Base line Cheese Factory,	Bloomingtondale,	Lynn Reid.
Haven's Cheese Factory,	Bloomingtondale,	E. A. Haven.

WASHTENAW COUNTY.

J. A. Robins' Cheese Factory,	Whitmore Lake,	J. A. Robins.
Excelsior Cheese Factory,	Willis,	H. S. Day.

WAYNE COUNTY.

Waltz Cheese Factory,	Waltz,	Waltz & Ziegler.
Power Factory,	Northville,	O. D. Power.

CREAMERIES.

ALLEGAN COUNTY.

<i>Name.</i>	<i>Location.</i>	<i>Owner or Manager.</i>
Monterey Butter Factory.	South Monterey,	H. C. McAlpine.
The Bradley Creamery Co.,	Bradley,	S. S. Fox.
The Hilliards Creamery Co.,	Hilliards,	H. E. Parmelee.
Martin Creamery Co.,	Martin,	A. C. Monteith.
Dorr Creamery,	Dorr,	E. S. Bottsford.

BARRY COUNTY.

Nashville Creamery Co.,	Nashville,	C. W. Smith.
Freeport Creamery Co.,	Freeport,	Freeport Creamery Co.
Woodland Creamery Co.,	Woodland,	B. S. Holly.

BERRIEN COUNTY.

Three Oaks Creamery Co.,	Three Oaks,	Almon Wright.
Galien Creamery Co. (L'td.),	Galien,	E. A. Blakeslee.
Pipestone Jersey Creamery,	Pipestone,	Geo. T. Yetter.

CLINTON COUNTY.

Westphalia Creamery Co.,	Westphalia,	Westphalia Creamery Co.
Maple River Creamery,	Ovid,	A. M. Smith & Co.
Looking Glass Creamery,	DeWitt,	Luther W. Sibley.

EATON COUNTY.

Vermontville Creamery Co.,	Vermontville,	C. E. Hammond.
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GENESEE COUNTY.

Gibsonville Altruist Com. Creamery,	Grand Blanc,	Gibsonville Altruist Com.
Goodrich Creamery,	Goodrich,	W. A. Cook.

HILLSDALE COUNTY.

Waldron Creamery Co.,	Waldron,	S. D. Spray.
Litchfield Butter Co.,	Litchfield,	C. G. Holkins.

IONIA COUNTY.

Saranac Dairy Co.,

Saranac,

Henry Frace.

KALAMAZOO COUNTY.

Alamo Valley Creamery,
Kalamazoo Creamery Co.,Alamo,
Kalamazoo,M. F. Bachelder.
Samuel Van Bochove.

KENT COUNTY.

Co-operative Farmers' Creamery,

Caledonia,

Chas. R. Webb.

LAPEER COUNTY.

Burnside Creamery,

Burnside,

Asa E. Piper.

LENAWEE COUNTY.

Reed Farm Creamery,
Locust Farm Creamery,
Cadmus Creamery,
Tecumseh Creamery,Cadmus,
Sand Creek,
Cadmus,
Tecumseh,F. J. Reed.
A. B. Graham.
L. McLouth & Son.
Edw. Mott & Co.

MACOMB COUNTY.

Richmond Creamery Co.,
New Haven Elgin Creamery Co.,Richmond,
New Haven,G. M. Grannis.
F. A. Luttenbacher.

MONTCALM COUNTY.

Lakeview Creamery,

Lakeview,

C. M. Northrop.

MONROE COUNTY.

Monroe Butter Factory,
Macon Creamery,
South Lockwood Creamery,
Excelsior Creamery Co.,Monroe,
Dundee,
South Lockwood,
Ida,J. A. Reiger,
A. H. Curtis.
John Strong & Son.
W. G. Hoffman.

OTTAWA COUNTY.

Jamestown Co-op. Creamery,
Allendale Creamery,
Crisp Creamery Co.,
Hudsonville Creamery Ass'n,
Coopersville Creamery Co.,Zutphen,
Allendale,
Crisp,
Hudsonville,
Coopersville,Jac. Nyenheis.
Mrs. E. L. Pierson.
Wybe Nienhuis.
C. H. Kelley.
F. P. Peck.

SAGINAW COUNTY.

Gera Creamery,

Gera,

John M. Geyer.

ST. CLAIR COUNTY.

St. Clair Creamery,

St. Clair,

John F. Ruff.

SANILAC COUNTY.

Marlette Creamery,
Brown City Creamery,Marlette,
Brown City,A. E. Piper & Co.
A. E. Piper.

SHIAWASSEE COUNTY.

Vernon Creamery,

Vernon,

P. E. Kirkham.

TUSCOLA COUNTY.

Vernon Creamery,
Reese Creamery,
Caro Elgin Butter Co.,

Vassar,
Reese,
Caro,

James H. Moore.
Henry Munger.
C. O. Thomas.

VAN BUREN COUNTY.

Berlamont Creamery Co.,

Berlamont,

Chas Linton.

WASHTENAW COUNTY.

Ypsilanti Dairy Ass'n,

Ypsilanti,

H. D. Platt.

CHEESE REGISTRATION.

Registered in Michigan with privilege to use the "Michigan Full Cream Cheese" brand from April 1, 1899, to April 1, 1900.

Name.	Location.—County.	Postoffice address.	Brand No
J. A. Pickett.....	Genesee.....	Clio.....	1
J. H. Jenkins.....	Lenawee.....	Rome Center.....	2
M. W. Hickes.....	Allegan.....	Hopkins.....	3
E. A. Haven.....	Van Buren.....	Bloomington.....	4
S. Browners.....	Ottawa.....	Zeeland.....	5
E. L. Baker.....	Lenawee.....	Adrian.....	10
F. C. Moll.....	Saginaw.....	Kulmbach.....	13
O. M. Field.....	Genesee.....	Clio.....	14
Lynn Reid.....	Van Buren.....	Bloomington.....	16
O. L. Foster.....	Lenawee.....	Hudson.....	17
John Leidlein.....	Saginaw.....	Buena Vista.....	21
Miller & Leggett.....	Allegan.....	Hopkins.....	23
John Berger.....	Bay.....	Amelith.....	29
S. T. Jones.....	Huron.....	Port Hope.....	33
T. T. Goodfellow.....	Genesee.....	Grand Blanc.....	41
H. P. Fitzpatrick.....	Montcalm.....	Carson City.....	44
H. S. Day.....	Washtenaw.....	Willis.....	46
H. W. Smith.....	Monroe.....	Dundee.....	49
O. D. Chester.....	Hillsdale.....	Camden.....	52
G. W. Dimond.....	Tuscola.....	Tuscola.....	53
Geo. Parry.....	Arenac.....	Standish.....	54
F. P. Mankin.....	Allegan.....	Hopkins.....	55
J. M. Fitzpatrick.....	Montcalm.....	Butternut Cheese Fact'y.....	56
Waltz & Ziegler.....	Wayne.....	Waltz Cheese Factory.....	57
C. C. Colvin.....	Lenawee.....	Clayton Cheese Factory.....	58
Fred Steele.....	Montcalm.....	Trufant.....	59
J. H. Fish.....	Clinton.....	Eagle.....	60
H. M. Cole.....	Hillsdale.....	Pittsford.....	61
L. S. Hills.....	Barry.....	Irving.....	62
E. N. Bates.....	Allegan.....	Moline.....	63
Frank Potts.....	Lenawee.....	Cadmus.....	64
H. E. Taylor.....	Cass.....	Cushing.....	65
B. L. Peebles.....	Lenawee.....	Rollin.....	66
J. B. Hoffman.....	Shiawassee.....	Vernon.....	67
J. B. Hoffman.....	Saginaw.....	Oakley.....	68
J. B. Hoffman.....	Saginaw.....	Chapin.....	69
John Muchterlein.....	Saginaw.....	Saginaw, R. F. D., 4-0.126.....	70
J. A. Robins.....	Washtenaw.....	Whitmore Lake.....	71
Bickel & Voss.....	Bay.....	Monitor.....	72
Tarolli & Co.....	Bay.....	Monitor.....	73
Thos J. Blair.....	Gratiot.....	Elmhall.....	74

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consist wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;
6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;
2. They must contain nothing injurious to health;
3. They must not be sold in imitation of, or under the name of another article;
4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;
5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound."

together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts of Vanilla and Tonka may be mixed and sold as "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract vanilla and tonka as "Extract of Vanilla" or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. It must be understood that when an extract of vanilla and tonka is labeled with both names, the type used is to be similar in style and size, and that one name is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., are prohibited by law.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison."

tain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

SEC. 2. Whoever shall do any of the acts or things prohibited, or neglects or refuses to do any of the acts or things enjoined by this act, or in any way violates any of its provisions, shall be deemed guilty of a misdemeanor, and shall be punished by a fine not less than twenty-five dollars nor more than five hundred dollars and the costs of the prosecution, or by imprisonment in the county jail not more than ninety days, or by both such fine and imprisonment, in the discretion of the court.

An Act for the prevention and suppression of foul brood among bees in the State of Michigan, and the inspection thereof.

The People of the State of Michigan enact:

SECTION 1. Upon the recommendation of a majority vote of the members of the Michigan State Beekeepers' Association, the Dairy and Food Commissioner shall appoint an inspector of apiaries.

SEC. 2. The inspector shall, when notified, examine all reported apiaries, and all others in the same locality not reported, and ascertain whether or not the disease known as foul brood or other contagious diseases exist in such apiaries, and if satisfied of the existence of foul brood, he shall give the owners or caretakers of the diseased apiaries full instructions how to treat said cases, as in the inspector's judgment seems best.

SEC. 3. The inspector, who shall be sole judge, shall visit all diseased apiaries a second time, and, if need be, burn all colonies of bees and combs that he may find not cured of foul brood, or other contagious diseases. The payment for bees so destroyed to be at five per cent of their value as estimated by the inspector, to be paid out of the appropriation provided by this bill.

SEC. 4. If the owner of a diseased apiary, honey, or appliances, shall sell, barter or give away, any bees, honey or appliances or expose other bees to the danger of said disease, or refuse to allow said inspector to inspect such apiary, honey or appliances, said owner shall, on conviction before a justice of the peace, be liable to a fine of not less than fifty dollars nor more than one hundred dollars, or not less than one month's imprisonment in the county jail, nor more than two months' imprisonment.

SEC. 5. The inspector of apiaries shall make an annual report to the Dairy and Food Commissioner, giving the number of apiaries visited, the number of diseased apiaries found, the number of colonies treated, also the number of colonies destroyed by fire, and his expenses.

SEC. 6. There is hereby appropriated out of any moneys in the State treasury, not otherwise appropriated, a sum not exceeding five hundred dollars per year, for the suppression of foul brood among bees in Michigan. Said inspector shall receive three dollars per day, and traveling expenses, for actual time served, which sum shall not exceed the moneys hereby appropriated, to be paid by the State Treasurer, upon warrants drawn and approved by the Governor.

SEC. 7. Act number one hundred forty-one of the public acts of eighteen hundred eighty-one, being chapter sixty-two of Howell's annotated statutes, is hereby repealed.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

1901

**WYNKOOP HALLENBECK CRAWFORD CO. OF LANSING, MICH.
STATE PRINTERS**

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING

W. B. SNOW,	-	-	-	-	-	-	-	COMMISSIONER
GEO. H. BUSSEY,	-	-	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	-	-	STATE ANALYST

APIARY INSPECTION.

We publish herewith report of the Apiary Inspector, who has completed the work of inspection for this year, showing the number of apiaries visited and the general condition of the different colonies throughout the State:

To the Honorable Dairy and Food Commissioner:

SIR—I herewith submit my report for the work done during the months of July, August, September and October, as State Inspector of Apiaries. I have visited in all 206 apiaries, having in them a total of 3,286 colonies. I have been compelled to burn only one colony. These apiaries were scattered through the counties of St. Joseph, Hillsdale, Lenawee, Washtenaw, Jackson, Calhoun, Barry, Eaton, Ingham, Livingston, Oakland, Macomb, St. Clair, Lapeer, Genesee, Shiawassee, Clinton, Ionia, Muskegon, Montcalm, Gratiot, Saginaw, Tuscola, Sanilac, Oceana, Mason, Lake, Manistee, Wexford, Benzie, Kalkaska and Antrim.

I have found the disease more prevalent in the older sections of country, that is, there is more disease in southern and central Michigan than in the northern part of the State. In the north it is confined to localities and is not of very long standing. In almost every case it can be traced back to the bringing in of diseased bees or fixtures from the south. In the southern part however the disease is scattered promiscuously and breaks out in yards, infecting many colonies, without any apparent source of contamination.

I have found many bee-keepers who are perfectly ignorant of the disease and even when it is present in their yards and a large proportion of their bees are diseased, they fail to see that anything serious is wrong. These bee-keepers, of course, belong to the class who keep a few bees as a side issue and are not posted in modern apiculture. Then again, I have found the disease present in the apiaries of specialists in bee culture, who are unfortunate enough to be located in the same vicinity with one of these other bee-keepers who are not posted. The uninformed man will not listen to the advice and pleadings of the specialists, but will leave diseased colonies to die, and be robbed out by the bees from the larger yard, in this way working ruin on the helpless specialist, who cannot control the action of his ignorant neighbor. Then oftentimes, when this specialist resorts to the protection of the law to compel his neighbor to clean up the diseased yard he is looked upon by the people of his vicinity with the utmost contempt.

The most active agents in spreading the disease are, first, that of robbing out colonies which have become weak and run down; and, second, that of using old hives in which the bees have died from the disease.

A grave difficulty arises when treating the bees to overcome foul brood in that it is a very hard matter to impress upon the uneducated man the necessity of careful work and the nature of bacteria. He will neglect some small but important matter, or fail to take some necessary precaution in order to insure success. As a consequence, the treatment is frequently a failure. This is not always the case, however; many apiarists are eager to learn all that is to be known about the disease, and by careful, persistent work have stamped it out of their yards. The treatment used by many apiarists has been to kill the infected colony with sulphur, remove the hive to a cellar, and cut out and save for home use all good honey, scrape clean and disinfect the hive, finally burning all refuse, scrapings and inside furniture. This method of treatment entails much less work than attempting to cure the colony, and the honey and also the hive is saved.

The needs are great, and many localities where the disease is known to exist have not been visited at all. Many of the localities visited this summer must be covered again at the beginning of next season to insure the effectual stamping out of the disease. I have met with the most hearty co-operation on the part of the intelligent apiarists of the State. They have not only manifested an interest in the work, but in many cases have materially assisted in the eradication of the disease in their locality.

Respectfully submitted,

JOHN M. RANKIN.

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR JULY 1, 1901.

Cases pending July 1, 1901.....	56
Cases commenced since said date	12
Cases nolle prossed	0

CASES DISPOSED OF.

Before Examining Magistrates... 0	{ Defendants bound over to trial courts...	0
	{ Defendants discharged on examination..	0
In Trial Courts..... 12	{ Defendants convicted.....	11
	{ Defendants acquitted.....	1
Cases pending October 1, 1901.....		56

PROCEEDINGS HAD DURING THE MONTH OF SEPTEMBER.

The case pending in justice court in the town of Northville against B. A. Parmenter of the firm of Parmenter & Son, Northville, charged with having sold cider vinegar below the legal standard, came up for trial on the third inst. Defendant was found not guilty.

CHEMIST'S REPORT.

Lansing, Mich., September 30, 1901.

HON. W. B. SNOW, *Dairy and Food Commissioner:*

SIR—During the month of September, 83 samples of food products have been examined, 21 being pure and 62 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Articles.	Total.	Number pure.	Number adulterated.
Cinnamon.....	1	1	0
Extracts (flavoring).....	10	2	8
Jelly.....	5	2	3
Lard.....	11	3	8
Maple syrup.....	2	2	0
Mazama.....	1	1	0
Mustard (dry).....	6	0	6
Mustard (prepared).....	1	0	1
Oleomargarine.....	16	1	15
Pancake flour.....	6	5	1
Pepper.....	14	2	12
Sardines.....	1	1	0
Seasoning.....	1	1	0
Syrup.....	3	0	3
Vinegar.....	5	0	5
Totals.....	83	21	62

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

EXTRACTS (flavoring).

No. L-116. Sample of "Crown Compound Extract of Coumarin with coloring matter for Vanilla," from J. F. Zerbel, Marquette.

Sold (1901) by **Roundy, Peckham & Co., Milwaukee, Wis.**
 Producer, **New York Chemical Works, New York City.**

Vanillin	None.
Coumarin	0.092 per cent.
Vanilla resin	None.
Organic acids, gums, etc.....	None.
Color	Foreign.

An artificial preparation.

No. L-124. Sample of raspberry extract from Joseph Sellwood, Ishpeming.

Sold (1901) by **Joseph Burnett & Co., Boston, Mass.**
 Producer, **Joseph Burnett & Co., Boston, Mass.**

Solids	0.05 per cent.
Dilute alcohol	—
Compound ethers	—
Coloring matter	—

An artificial preparation.

No. L-125. Sample of strawberry extract from Joseph Sellwood, Ishpeming.

Sold (1901) by **Joseph Burnett & Co., Boston, Mass.**
 Producer, **Joseph Burnett & Co., Boston, Mass.**

Solids	0.04 per cent.
Dilute alcohol	—
Compound ethers	—
Coloring matter	—

An artificial preparation.

No. L-126. Sample of pineapple extract from Joseph Sellwood, Ishpeming.

Sold (1901) by **Joseph Burnett & Co., Boston, Mass.**
 Producer, **Joseph Burnett & Co., Boston, Mass.**

Solids	0.01 per cent.
Dilute alcohol	—
Compound ethers	—
Coloring matter	—

An artificial preparation.

No. L-129. Sample of raspberry extract from Bayard & Hasselbald, Ishpeming.

Producer, **John Anderm & Co., Worcester, Mass.**

Solids	66.95 per cent.
Sugar	—
Artificial flavor	—
Coloring matter	—

An artificial preparation.

No. L-130. Sample of "Standard Extract of Tonka and Vanilla," from A. W. Conradson, Ishpeming.

Sold (1901) by **Daniel Lynch, Grand Rapids.**

Producer, **Wolverine Mfg. Co., Grand Rapids.**

Vanillin	0.023 per cent.
Coumarin	Trace.
Vanilla resin	Present.
Organic acid and gums	"
Color	Foreign.

Contains foreign coloring matter.

No. L-154. Sample of "Triple Extract of Vanilla," from J. S. Szczukowski, Alpena.

Sold (1901) by **Berdan & Co., Toledo, Ohio.**

Producer, **The Farina Extract Co., New York City.**

Vanillin	0.068 per cent.
Coumarin	None.
Vanilla resin	None.
Color	Foreign.

An artificial preparation.

No. R-54. Sample of "Extract Vanilla," from M. C. Mothersill, Holly.

Sold (1901) by **J. Starrat & Co., Detroit, Mich.**

Producer, **J. Starrat & Co., Detroit, Mich.**

Vanillin	0.038 per cent.
Vanilla resin	Present.
Organic acid, gums, etc.	Present.
Color	Foreign.

Contains foreign coloring matter.

JELLY.

No. K-237. Sample of "Raspberry Jelly," from J. I. Buss, Three Rivers.

Sold (1901) by **Whitman Bros., South Bend, Ind.**

Producer, **The E. G. Dailey Co., Detroit, Mich.**

Water	42.05 per cent.
Ash	0.37 " "
Reducing sugar before inversion	32.17 " "
Reducing sugar after inversion	33.25 " "
Polarization before inversion	+123.4 degrees.
Polarization after inversion	+119.9 " "
Starch paste	Present.

An imitation fruit jelly.

No. K-245. Sample of "Pure Fruit Jelly" (Quince), from A. Towl, Muskegon.

Sold (1901) by **Reid Murdock & Co., Chicago, Ill.**

Producer, **Reid Murdock & Co., Chicago, Ill.**

Water	42.62 per cent.
Ash	0.35 " "
Reducing sugar before inversion.....	44.49 " "
Reducing sugar after inversion.....	49.00 " "
Polarization before inversion	+25.0 degrees.
Polarization after inversion	+ 8.4 "
Starch paste	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

No. S-29. Sample of "Pure Currant Jelly," from H. Minne & Sons, Detroit.

Producer, **E. G. Dailey & Co., Detroit, Mich.**

Water	37.61 per cent.
Ash	0.61 " "
Reducing sugar before inversion.....	41.42 " "
Reducing sugar after inversion.....	51.43 " "
Polarization before inversion	+66.0 degrees.
Polarization after inversion	+53.4 "
Color	Artificial.

Imitation fruit jelly, artificially colored.

LARD.

No. R-45. Sample of lard from Wm. M. Trombley, Bay City.

Sold (1901) by **Meisel & Goeschel, Bay City, Mich.**

Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Rise of temperature with sulphuric acid, C.....	46.8 degrees.
Iodine absorbed	74.0 per cent.
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-55. Sample of lard.

Sold (1901) by **Meisel & Goeschel, Bay City, Mich.**

Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-56. Sample of lard.

Sold (1901) by **Gustin Cook & Buckley, Bay City, Mich.**

Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-57. Sample of lard.

Sold (1901) by **Smart, Fox & Co., Saginaw, Mich.**
 Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-58. Sample of lard.

Sold (1901) by **Stewart Mercantile Co., Saginaw, Mich.**
 Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-59. Sample of lard.

Sold (1901) by **Saginaw Beef Co., Saginaw, Mich.**
 Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-60. Sample of lard.

Sold (1901) by **Symons Bros. & Co., Saginaw, Mich.**
 Producer, **Stingel Bros., Saginaw, Mich.**

Refractive index at 40° C.....	1.4616
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-61. Sample of lard.

Sold (1901) by **Symons Bros. & Co., Saginaw, Mich.**
 Producer, **Fred Beuthier, Saginaw, E. S., Mich.**

Refractive index at 40° C.....	1.4619
Halphen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

MUSTARD.

No. L-113. Sample of mustard from P. Werner & Sons, Marquette.

Sold (1901) by **Sherman Bros. Co., Chicago, Ill.**
 Producer, **Sherman Bros. & Co., Chicago, Ill.**

Ash	5.32 per cent.
Mustard	—
Turmeric	—

Colored with turmeric.

No. L-157. Sample of mustard (Brand "Globe"), from W. J. Clark & Son, Harbor Springs.

Sold (1901) by **Franklin McVeagh & Co., Chicago, Ill.**
 Producer, **Franklin McVeagh & Co., Chicago, Ill.**

Ash	3.58	per cent.
Wheat starch	38.50	" "
Mustard	—	
Turmeric	—	

Adulterated with wheat starch and turmeric.

No. R-46. Sample of mustard from Max Berling, Bay City.

Ash	6.11	per cent.
Mustard	—	
Turmeric	—	

Colored with turmeric.

No. R-47. Sample of mustard (Brand "Special"), from Max Berling, Bay City.

Producer, **Bennett, Sloan & Co., New York City.**

Ash	6.24	per cent.
Mustard	—	
Turmeric	—	

Colored with turmeric.

No. R-50. Sample of mustard from Max Berling, Bay City.

Producer, **Bennett, Sloan & Co., New York City.**

Ash	6.04	per cent.
Mustard	—	
Turmeric	—	

Colored with turmeric.

No. R-52. Sample of mustard (Brand "Peerless"), from John McBride, Bay City.

Producer, **Edwin J. Gilles & Co., New York City.**

Ash	5.47	per cent.
Mustard	—	
Turmeric	—	

Colored with turmeric.

MUSTARD (Prepared).

No. L-136. Sample of prepared mustard from T. Hughes & Sons, Ishpeming.

Sold (1901) by **Puhl, Webb & Co., Chicago, Ill.**

Solids	22.18	per cent.
Ash	2.04	" "
Vinegar	—	
Mustard	—	
Spices and turmeric	—	

Package not properly labeled.

OLEOMARGARINE.

No. K-238. Sample of oleomargarine (Brand "Sweet Clover"), from Wm. Van Kersen, Kalamazoo.

Producer, **Wm. J. Moxley, Chicago, Ill.**

Oleomargarine artificially colored.

No. K-239. Sample of oleomargarine from Thomas J. Sloan, Kalamazoo.

Producer, Wm. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-240. Sample of oleomargarine (Brand "Daisy"), from the L. Hoekstra Co., Kalamazoo.

Producer, Wm. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-241. Sample of oleomargarine (Brand "Daisy"), from J. W. Phillips, Kalamazoo.

Producer, Wm. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-242. Sample of oleomargarine from J. H. Spoelman, Muskegon.

Producer, Freidman Mfg. Co., Chicago, Ill.

Oleomargarine artificially colored.

No. K-243. Sample of oleomargarine from D. Christie, Muskegon.

Producer, Braun & Fltts, Chicago, Ill.

Oleomargarine artificially colored.

No. K-244. Sample of oleomargarine from M. Knooihuizen, Muskegon.

Producer, The G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. K-246. Sample of oleomargarine from the Morse Dry Goods Store, Grand Rapids.

Producer, The G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. K-247. Sample of oleomargarine from F. J. Dettenthaler, Grand Rapids.

Producer, Wm. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. R-48. Sample of oleomargarine from T. J. Sloan, Kalamazoo.

Producer, Wm. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. S-32. Sample of oleomargarine from Lafer Bros., Detroit.

Producer, Union Dairy Co., Cleveland, Ohio.

Oleomargarine artificially colored.

No. S-33. Sample of oleomargarine from Detroit Tea and Butter Co., Detroit.

Oleomargarine artificially colored.

No. S-34. Sample of oleomargarine from Peter Smith & Sons, Detroit.

Sold by Michigan Produce Co., Detroit, Mich.

Producer, Capitol City Dairy Co., Columbus, Ohio.

Oleomargarine artificially colored.

No. S-35. Sample of oleomargarine from King's Tea Store, Detroit.

Sold (1901) by **Michigan Produce Co., Detroit, Mich.**
Producer, Capitol City Dairy Co., Columbus, Ohio.

Oleomargarine artificially colored.

No. S-36. Sample of oleomargarine (Brand "Purity"), from Boston Coffee Co., F. Lindner, manager, Detroit.

Sold (1901) by **Michigan Produce Co., Detroit, Mich.**
Producer, Capitol City Dairy Co., Columbus, Ohio.

Oleomargarine artificially colored.

PANCAKE FLOUR.

No. L-132. Sample of "Wright's Sunrise Pancake Flour," from E. M. Leuray, Ishpeming.

Producer, Wright's Mills, Berlin, Wis.

Wheat flour	—
Corn, rye and rice	—
Leavening and salt	—

Sample is a mixture or compound and should be so stated on package.

PEPPER.

No. L-103. Sample of white pepper from G. C. Dodd & Co., Cheboygan.

Sold (1901) by **W. I. Brotherton & Co., Bay City, Mich.**
Producer, W. I. Brotherton & Co., Bay City, Mich.

Ash	2.80	per cent.
Total starch	59.84	" "
Volatile ether extract	1.07	" "
Non-volatile ether extract	5.03	" "
Crude fibre	1.98	" "

Microscopical examination shows the presence of ground rice.

No. L-104. Sample of white pepper from N. Howard, Cheboygan.

Sold (1901) by **W. I. Brotherton & Co., Bay City, Mich.**
Producer, W. I. Brotherton & Co., Bay City, Mich.

Ash	2.85	per cent.
Total starch	58.72	" "
Volatile ether extract	1.03	" "
Non-volatile ether extract	5.01	" "
Crude fibre	2.00	" "

Microscopical examination shows presence of ground rice.

No. L-106. Sample of white pepper from D. C. Horton & Son, Cheboygan.

Sold (1901) by **W. I. Brotherton & Co., Bay City, Mich.**
Producer, W. I. Brotherton & Co., Bay City, Mich.

Ash	2.87	per cent.
Total starch	59.90	" "
Volatile ether extract	1.08	" "
Non-volatile ether extract	5.05	" "
Crude fibre	1.96	" "

Microscopical examination shows the presence of ground rice.

No. L-110. Sample of black pepper from Frank Laske, Cheboygan.
Sold (1901) by **Gustin, Cook & Buckley, Bay City, Mich.**

Total ash	6.48	per cent.
Ash insoluble in hydrochloric acid (sand)	1.18	" "
Total starch	32.90	" "
Volatile ether extract	1.42	" "
Non-volatile ether extract	5.62	" "
Crude fibre	10.91	" "

Microscopical examination shows the presence of wheat.

No. L-150. Sample of white pepper from G. C. Dodd & Co., Cheboygan.
Sold (1901) by **W. I. Brotherton & Co., Bay City, Mich.**
Producer, **W. I. Brotherton & Co., Bay City, Mich.**

Ash	2.67	per cent.
Total starch	58.60	" "
Volatile ether extract	1.09	" "
Non-volatile ether extract	5.11	" "
Crude fibre	2.01	" "

Microscopical examination shows the presence of ground rice.

No. L-151. Sample of black pepper from G. C. Dodd & Co., Cheboygan.

Total ash	12.91	per cent.
Ash insoluble in hydrochloric acid (sand)	7.22	" "
Starch	23.00	" "
Volatile ether extract	1.42	" "
Non-volatile ether extract	5.30	" "
Crude fibre	16.12	" "

Sample contains an excess of sand and pepper hulls.

No. L-152. Sample of black pepper from Chris. Olsen & Co., Alpena.
Sold (1901) by **Holmes & Kelsey Co., Alpena, Mich.**

Total ash	7.14	per cent.
Starch	12.88	" "
Volatile ether extract	1.11	" "
Non-volatile ether extract	5.30	" "
Crude fibre	22.33	" "

Microscopical examination shows sample to be ground pepper shells.

No. L-153. Sample of black pepper from McGee Bros. & Co., Alpena.
Sold by **Moran Fitzsimmons & Co., Detroit, Mich.**

Total ash	7.69	per cent.
Ash insoluble in hydrochloric acid (sand)	1.78	" "
Starch	14.68	" "
Volatile ether extract	1.01	" "
Non-volatile ether extract	5.85	" "
Crude fibre	20.16	" "

Microscopical examination shows sample to be nearly all ground pepper shells.

No. L-155. Sample of black pepper (Brand "AAA"), from J. F. Grant & Co., Alpena.

Sold (1901) by **Symons Bros. & Co., Saginaw, Mich.**
Producer, **Symons Bros. & Co., Saginaw, Mich.**

Total ash	8.13	per cent.
Ash insoluble in hydrochloric acid (sand)	2.15	" "
Starch	12.54	" "
Volatile ether extract	1.09	" "
Non-volatile ether extract	5.87	" "
Crude fibre	22.46	" "

Microscopical examination shows sample to be ground pepper shells.

No. L-156. Sample of white pepper (Brand "Hawthorn"), From A. N. Smith, Harbor Springs.

Sold by **W. J. Quan & Co., Chicago, Ill.**
 Producer, **W. J. Quan & Co., Chicago, Ill.**

Total ash	5.22	per cent.
Ash insoluble in hydrochloric acid (sand)	0.68	" "
Carbonate of lime	2.81	" "
Total starch	47.05	" "
Volatile ether extract	0.95	" "
Non-volatile ether extract	6.31	" "
Crude fibre	3.16	" "

Microscopical examination shows presence of corn meal.

No. S-27. Sample of black pepper from Chas. Addison, Detroit.

Producer, **Austin & Nichols Co., New York City.**

Total ash	10.45	per cent.
Ash insoluble in hydrochloric acid (sand)	3.06	" "
Starch	10.81	" "
Volatile ether extract	2.80	" "
Non-volatile ether extract	5.35	" "
Crude fibre	21.66	" "

Microscopical examination shows sample to be finely ground pepper shells.

No. R-44. Sample of white pepper.

Sold by **W. I. Brotherton & Co., Bay City, Mich.**
 Producer, **W. I. Brotherton & Co., Bay City, Mich.**

Total ash	2.67	per cent.
Total starch	60.00	" "
Volatile ether extract	1.09	" "
Non-volatile ether extract	5.04	" "
Crude fibre	1.86	" "

Microscopical examination shows the presence of ground rice.

SYRUP.

No. L-117. Sample of "No. 3 Syrup," from John Carlson, Marquette.

Sold (1901) by **Sprague, Warner & Co., Chicago, Ill.**

Water	31.08	per cent.
Ash	0.36	" "
Reducing sugar before inversion	29.56	" "
Reducing sugar after inversion	35.72	" "
Polarization before inversion	+157.6	degrees.
Polarization after inversion	+142.6	"

A glucose mixture.

No. L-119. Sample of "Mt. Baker Caramel Syrup," from Fred Berean, Marquette.

Sold (1901) by **Walsh, Lange & Co., Chicago, Ill.**

Water	36.60	per cent.
Ash	0.88	" "
Reducing sugar before inversion	32.75	" "
Reducing sugar after inversion	39.80	" "
Polarization before inversion	+140.0	degrees.
Polarization after inversion	+128.0	"

A glucose mixture.

No. L-120. Sample of "Extra Corn Syrup," from H. E. Bittner, Marquette.

Sold (1901) by **The W. M. Hoyt Co., Chicago, Ill.**

Water	34.12	per cent.
Ash	0.83	" "
Reducing sugar before inversion.....	33.78	" "
Reducing sugar after inversion.....	39.61	" "
Polarization before inversion	+141.0	degrees.
Polarization after inversion	+132.0	" "

A glucose mixture:

VINEGAR.

No. L-118. Sample of cider vinegar from J. W. McGuire & Co., Marquette.

Sold (1901) by **Sprague, Warner & Co., Chicago, Ill.**

Specific gravity	1.0142	
Acid, as acetic	3.77	per cent.
Total solids	2.08	" "
Ash	0.34	" "

Below standard in acid strength.

No. L-137. Sample of vinegar from T. Hughes & Sons, Ishpeming.

Sold (1901) by **Loesselyoung Bros., Ishpeming, Mich.**

Specific gravity	1.0088	
Acid, as acetic	3.62	per cent.
Total solids	1.35	" "
Ash	0.32	" "

Below standard in solids and acid strength.

No. L-158. Sample of vinegar from A. E. Castner, Harbor Springs.

Sold by **S. Turpening, Harbor Springs, Mich.**
 Producer, **S. Turpening, Harbor Springs, Mich.**

Specific gravity	1.0116	
Acid, as acetic	3.00	per cent.
Total solids	2.45	" "
Ash	0.38	" "

Below standard in acid strength.

No. L-159. Sample of vinegar from H. S. Rodgers Co., Copemish.

Specific gravity	1.0692	
Acid, as acetic	4.32	per cent.
Total solids	14.09	" "
Ash	0.64	" "

Contains added glucose syrup.

No. U-1. Sample of vinegar from Johnson Vivian, Jr. & Co., Laurium.

Sold (1901) by **Sprague, Warner & Co., Chicago, Ill.**

Specific gravity	1.0056	
Acid, as acetic	3.82	per cent.
Total solids	0.11	" "
Ash	0.01	" "

Distilled vinegar below standard in acid strength.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of September:

Ada, Albion, Allegan, Alpena, Ashley, Bannister, Bay City, Belding, Berlin, Blackman, Bonney, Cadillac, Carmel, Centerville, Charlotte, Cheboygan, Clam Lake, Clayton, Coopersville, Copemish, Detroit, Dollar Bay, Elmriver, Empire, Flint, Galesburg, Garfield, Geneva, Grand Ledge, Hancock, Hastings, Harbor Springs, Hesing, Hilliards, Holly, Houghton, Holland, Hudson, Indian River, Ionia, Jackson, Kalamazoo, Kalkaska, Leoni, Marshall, Martin, North Star, Onaway, Otsego, Peninsular, Plainwell, Pontiac, Portland, Ripley, Saginaw, Sandstone, Summit, Three Rivers, Traverse City, Wayland, Windom, Zeeland.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of September:

At Ada:

L. Burton—Number of cows, 24; condition, fair; amount of daily milk, 240 quarts; feed, pasture, corn stalks, bran and corn meal; stables, low, dirty; yard, large amount of manure allowed to accumulate; ventilation, poor; water, spring; uses separator in spring house; sells cream to D. E. Pierce, Grand Rapids.

Clement & Holmes—Number of cows, 45; condition, good; amount of daily milk, 450 quarts; feed, pasture, hay, millet, corn fodder, ensilage, bran and middlings; stables, clean, cement floor; ventilation, extra good and fine stable; yard, dry and clean, good drainage; water, river; sells cream; milk room neat and clean, raises cream in ice tank.

A. Aevill—Number of cows, 18; condition, clean; amount of daily milk, 270 quarts; feed, pasture, hay, corn stalks, ground corn and oats; stables, poor, will rebuild with asphalt floor and all latest improvements; yard, dry, some manure, good drainage; ventilation, poor, will improve; water, spring; sells to creamery; cools in spring house.

R. O. Johnson—Number of cows, 75; condition, good; daily milk, 750 quarts; feed, pasture, hay, ensilage, millet, bran and gluten; stables, extra fine and clean, cement floor, all well arranged; yard, dry and clean, good drainage; ventilation, extra good; water, spring; uses aerator, separator and bottles; milk room, neat and clean.

At Albion:

J. R. O'Hara—Number of cows, 10; condition, good; daily milk, 100 quarts; feed, pasture, hay, shredded corn stalks, hay and bran; stables, clean, thoroughly whitewashed; ventilation, good; yard, dry and clean, good drainage; water, well; retails; cools in water tank, uses ice in wagon.

D. Hubbard & Son—Number of cows, 20; condition, fair; daily milk, 200 quarts; feed, pasture, hay, corn stalks, ground corn and oats; stables, clean, cement gutters; ventilation, fair; yard, fair, manure allowed to accumulate; water, well; sells milk and cream to M. Holt; milk room, neat and clean; uses aerator and separator.

Ray Hartung—Number of cows, 9; condition, good; daily milk, 90 quarts; feed, pasture, hay, corn stalks, ground corn and oats and bran; stables, neat and clean; ventilation, good; yard, dry and clean; water, well; retails; milk house, clean, cools milk in water tank.

F. A. Hanck—Number of cows, 8; condition, good; daily milk, 96 quarts; feed, pasture, hay, corn stalks, corn meal and bran; stables, clean; ventilation, fair; yard, dry, good drainage; water, well; sells to H. P. Thompson.

Geo. McCormick—Number of cows, 8; condition, clean; daily milk, 125 quarts; feed, pasture, hay, corn stalks, ground corn and oats and bran; stables, clean, well ventilated; yard, dry, good drainage; water, well; sells to H. P. Thompson.

A. W. Bascomb—Number of cows, 21; condition, good; daily milk, 250 quarts; feed, pasture, hay, shredded corn fodder, ground corn and oats and bran; stables, fair and fairly clean; ventilation, poor; yard, clean; sells to L. Shields; cools in water tank.

F. C. Radee—Number of cows, 27; condition, extra good; daily milk, 280 quarts; feed, pasture, hay, corn stalks, ground corn and oats and bran; stables, clean, well ventilated; yard, fairly clean; water, well; retails milk; cools in water tank.

At Allegan:

Henry Stewart—Number of cows, 6; condition, good; daily milk, 72 quarts; feed, hay, middlings, ground corn and oats; stables, fair; ventilation, fair; yard, dry and clean; water, river; retails.

E. A. Rockwell—Number of cows, 18; condition, fair; daily milk, 180 quarts; feed, hay, corn stalks, bran, ground corn and oats; building stable with all improvements; yard, dry and clean; water, well; milk house, clean with cement cooling tank; retails.

E. Brown & Son—Number of cows, 14; condition, good; daily milk, 155 quarts; feed, hay, corn stalks, bran, ground corn and oats; stables, low but clean with fair ventilation; yard, clean, good drainage; water, well; retails.

At Berlin:

Asylum for Criminal Insane—Number of cows, 32; condition, fine and clean; daily milk, 400 quarts; feed, pasture, hay, corn stalks, bran, ground corn and oats and middlings; stables, extra neat, a model stable; yard, clean, good drainage; water, spring; uses aerator with ice; uses milk in Asylum.

C. S. Sedan—Number of cows, 25; condition, good and healthy; daily milk, 300 quarts; feed, pasture, hay, corn stalks, corn meal, middlings and bran; stables, clean, well ventilated; yard, clean; water, spring; milk house, clean, uses separator; sells milk and cream.

At Blackman:

J. Laberty—Number of cows, 30; condition, good; daily milk, 300 quarts; feed, hay, ensilage, bran and gluten; stables, old and poor; yard, clean; ventilation, poor; water, well; uses separator and ice; retails milk and cream.

A. Laberty—Number of cows, 18; condition, good; daily milk, 180 quarts; feed, hay, ensilage, bran and gluten; stables, clean, uses land plaster as an absorbent; yard, clean, good drainage; ventilation, good; water, well; milk room, clean, uses ice; retails.

C. H. Strand—Number of cows, 10; condition, good; daily milk, 100 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, fair and well ventilated; yard, clean, good drainage; sells milk to Mrs. Camp.

Atwood Elliott—Number of cows, 23; condition, good; daily milk, 255 quarts; feed, pasture, hay, corn stalks and gluten; stables, fairly clean, will rebuild; yard, clean; ventilation, fair; water, well; uses aerator and separator; sells milk and cream.

Lucy Diesenroth—Number of cows, 15; condition, fair; daily milk, 150 quarts; feed, hay, corn stalks, corn and oats ground and bran; stables,

clean and fairly ventilated; yard, clean; water, well; sells milk to Mrs. Camp.

Joseph Butler—Number of cows, 3; condition, extra good; daily milk, 42 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, clean and fairly well ventilated; yard, dry; water, well; sells milk to Mrs. Camp.

Mrs. Emma Camp—Number of cows, 13; condition, large and even in size; daily milk, 130 quarts; feed, corn stalks, ensilage, bran and gluten; stables, low, poor floors, fairly well ventilated; yard, wet; milk house, stone; uses aerator and separator; sells milk and cream.

At Carmel:

William O'Lary—Number of cows, 30; condition, clean; daily milk, 300 quarts; feed, hay, corn stalks, bean pods, corn meal, ground corn and oats and bran; stables, fair but poorly ventilated, will make improvements before winter; yard, clean; water, well; retails.

Jno. Creitz—Number of cows, 12; condition, good, daily milk, 120 quarts; feed, pasture, hay, corn stalks, bran and middlings, sugar beets; stables, fair with good ventilation; yard, fair with fairly good drainage; water, creek; sells milk to creamery.

Franklin Peck—Number of cows, 5; condition, good; daily milk, 50 quarts; feed, hay, ensilage, ground corn and oats; stables, extra good, well ventilated; yard, clean; water, well; sells milk to creamery.

R. Mauser—Number of cows, 2; condition, good; daily milk, 20 quarts; feed, hay, corn stalks, ground corn and oats; stables, fairly clean and well ventilated; yard, dry; water, well; sells milk to creamery.

E. Kent—Number of cows, 4; condition, good; daily milk, 50 quarts; feed, hay, corn stalks and bran; stables, clean and fairly ventilated; yard, dry; water, well and creek; sells milk to creamery.

L. M. Wood—Number of cows, 20; condition, good and clean; daily milk, 200 quarts; feed, pasture, corn stalks, ground corn and oats and bran; stables, clean and well ventilated; yard, dry; water, well; uses aerator; retails and wholesales.

Jno. Young—Number of cows, 11; condition, good; daily milk, 155 quarts; feed, pasture, hay, corn stalks, ground corn and oats; stables, fair but poorly ventilated; yard, fair; makes butter.

W. M. Whitcomb—Number of cows, 5; condition, good; daily milk, 75 quarts; feed, pasture, hay, corn stalks, corn and oats; stables, new with good ventilation; yard, fairly clean; water, well; sells milk to creamery.

J. Mauser—Number of cows, 6; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats; stables, fairly clean; yard, dry; water, creek; sells milk to creamery.

At Cadillac:

E. H. Reynolds—Number of cows, 7; condition, clean and healthy; daily milk, 98 quarts; feed, pasture, hay, bran and middlings; stables, clean, well ventilated; yard, dry; water, lake; cools with spring water; retails.

Wm. Preston—Number of cows, 7; condition, fairly clean; daily milk, 70 quarts; feed, hay, corn stalks, bran, gathers city slops; stables, old and poorly ventilated; yard, dry; water, creek; retails.

Hans Nicholson—Number of cows, 4; condition, good; daily milk, 56 quarts; feed, pasture, hay and bran; stables, clean and well ventilated; yard, dry; water, city; retails.

At Charlotte:

H. Beard—Number of cows, 11; condition, clean; daily milk, 110 quarts; feed, hay, corn stalks, bean pods, ground corn and oats and bran; stables, temporary, will rebuild; yard, clean; water, well and creek.

A. Chappell—Number of cows, 7; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, good and fairly well ventilated; yard, dry; water, well; retails.

At Clam Lake:

Richard Robinson—Number of cows, 12; condition, good; daily milk, 120 quarts; feed, pasture, hay, corn stalks, ground corn and oats and bran; stables, very poor, will rebuild before winter; yard, large amount of manure allowed to accumulate; water, spring; uses separator and ice; retails milk and cream.

T. W. Hector—Number of cows, 22; condition, extra good; daily milk, 330 quarts; feed, pasture, hay, corn stalks, bran, ground corn and oats, oil meal; stables, extra good, thoroughly whitewashed, everything first class, fine ventilation; yard, dry; water, well; uses ice to cool milk; retails.

At Elmwood:

Daniel Hines—Number of cows, 6; condition, good; daily milk, 65 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, old and dirty, preparing to build new; yard, dry; water, lake and spring; cools milk in spring tank; retails.

Peter E. Swan—Number of cows, 10; condition, fine; daily milk, 120 quarts; feed, hay, corn stalks, middlings, bran, carrots, mangels and oil meal; stables, extra good, well ventilated, cement floor; yard, dry; water, spring; cools milk in spring tank; retails.

At Galesburg:

J. W. Caywood—Number of cows, 23; condition, extra fine; daily milk, 275 quarts; feed, pasture, hay, ensilage, shredded corn stalks, bran and

gluten; stables, new with cement floor, side and top ventilation; yard, dry; water, well; milk room, clean, uses separator; sells cream to Harvey Candy Co., Kalamazoo.

L. T. Brocker—Number of cows, 24; condition, a fine herd; daily milk, 192 quarts; feed, pasture, hay, ensilage, ground corn and oats; stables, fair and fairly clean, will thoroughly clean and whitewash before winter, well ventilated; yard, dry, with good drainage; water, well; milk house, clean, uses separator; sells cream to Witwer Baking Co., Kalamazoo.

E. Barringer—Number of cows, 11; condition, good; daily milk, 165 quarts; feed, pasture, corn stalks, ensilage and bran; stables, clean, cement floors, ventilation ample; yard, dry, with good drainage; water, well and river; uses separator; makes butter.

Knapp Bros.—Number of cows, 19; condition, clean; daily milk, 170 quarts; feed, pasture, corn stalks, ground corn and oats and bran; stables, clean; yard, dry, good drainage; water, well; milk room, clean; retails.

At Garfield:

R. Weidaft—Number of cows, 13; condition, extra good; daily milk, 130 quarts; feed, hay, corn stalks, bran, ground corn and oats; stables, low, dusty and poorly ventilated, contemplates building new stable; yard, low, with no drainage; water, well; uses aerator in stable; sells to A. Weidaft.

Geo. Sachtlebu—Number of cows, 16; condition, good and healthy; daily milk, 160 quarts; feed, hay, corn stalks, bran, ground corn and oats; stables, extra good, well ventilated; yard, dry; water, well; uses aerator with ice; retails.

Robt. Barney—Number of cows, 5; condition, good; daily milk, 50 quarts; feed, hay, corn stalks, bran and oil meal; stables, poor, cobwebs in abundance; yard, wet and foul; water, well; wholesales.

Jno. F. Miller—Number of cows, 3; condition, extra good; daily milk, 36 quarts; feed, hay, corn stalks, bran and corn meal; stables, good and clean, well ventilated; yard, dry; water, well; makes butter.

E. S. Pratt—Number of cows, 5; condition, good; daily milk, 50 quarts; feed, hay, corn stalks, bran, ground corn and oats; stables, old and poor but clean, well ventilated; yard, dry; water, well; makes butter and uses ice.

At Hastings:

M. H. Burton—Number of cows, 22; condition, extra good; daily milk, 265 quarts; feed, hay, corn stalks, ground corn and oats, cotton seed meal and bran; stables, good and well ventilated; yard, dry; water, well; milk room, clean; retails milk and cream.

J. F. Edmonds—Number of cows, 20; condition, good and clean; daily milk, 200 quarts; feed, pasture, hay, ensilage, oil meal and bran; stables, good and well ventilated; yard, dry, good drainage; water, well; milk house, clean; sells milk to L. J. Matthews and makes butter.

L. J. Matthews—Number of cows, 7; condition, good; daily milk, 100 quarts; feed, pasture, hay, corn stalks, oats and bran; stables, good and fairly well ventilated; yard, fairly clean; water, well; uses aerator and retails.

C. H. Gardiner—Number of cows, 8; condition, good; daily milk, 80 quarts; feed, hay, corn stalks, ground corn and oats; stables, rebuilding with improvements; yard, dry; water, well and river; milk house, clean; sells milk and cream.

H. H. Lewis—Number of cows, 30; condition, good; daily milk, 300 quarts; feed, pasture, hay, corn stalks, corn meal, bran and gluten; stables, good and fairly well ventilated; yard, dry, good drainage; water, well; uses aerator and separator; sells milk and cream.

At Hesing:

Chris Jargensen—Number of cows, 11; condition, extra good; daily milk, 154 quarts; feed, pasture, hay, corn stalks, ground corn and oats and bran; stables, good, well ventilated; yard, dry, good drainage; water, well; retails.

At Hilliards:

Jacob Glissick—Number of cows, 4; condition, good; daily milk, 148 quarts; feed, hay, corn stalks and mangels; stables, good and fairly well ventilated; yard, dry and clean; water, well and river; sells milk to Hilliards Creamery Company.

Paul Scelski—Number of cows, 5; condition, good; daily milk, 50 quarts; feed, hay, corn stalks and corn meal; stables, good and fairly well ventilated; yard, dry; water, well; sells milk to Hilliards Creamery Company.

Jno. Krook—Number of cows, 7; condition, good; daily milk, 84 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair and well ventilated; yard, dry, good drainage; water, well; sells milk to Hilliards Creamery Company.

A. E. Parmalee—Number of cows, 10; condition, good; daily milk, 120 quarts; feed, hay, corn stalks, gluten, bran and middlings; stables, fair, well ventilated; yard, dry; water, well and creek; sells milk to Hilliards Creamery Company.

Jos. Waykaski—Number of cows, 10; condition, good; daily milk, 120 quarts; feed, hay, corn stalks, bran and middlings; stables, extra good, well ventilated, clean cement floor; yard, dry; water, well; sells milk to Hilliards Creamery Company.

J. T. Tanner—Number of cows, 10; condition, good; daily milk, 140 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, good, well ventilated; yard, dry, with good drainage; water, well; sells milk to Hilliards Creamery Company.

Jno. Burchard—Number of cows, 8; condition, good; daily milk, 80 quarts; feed, pasture, hay and corn stalks; stables, good and well ventilated, good cement floor; yard, dry; water, well and river; sells milk to Hilliards Creamery Company.

Peter Niensyzk—Number of cows, 8; condition, fair; daily milk, 96 quarts; feed, hay, corn stalks, ground corn, oats and rye; stables, fair and fairly well ventilated; yard, dry and clean; water, well; sells to Hilliards Creamery Company.

Jas. Truax—Number of cows, 11; condition, good; daily milk, 170 quarts; feed, corn stalks, ground corn and oats, bran and middlings; stables, good and well ventilated, cement floors; yard, dry, with good drainage; water, well; sells milk to Hilliards Creamery Company.

Michael Burchardt—Number of cows, 17; condition, good and clean; daily milk, 236 quarts; feed, hay, corn stalks, ground corn and oats, bran, beets and carrots; stables, good, well ventilated, cement floors; yard, dry, with good drainage; water, well; sells milk to Hilliards Creamery Company.

Joe Jankaski—Number of cows, 7; condition, good; daily milk, 100 quarts; feed, hay, corn stalks, ground corn, oats and bran; stables, poor and dirty, poorly ventilated; hog pen in stable; yard, wet, no drainage; water, well.

M. E. Parmalee—Number of cows, 31; condition, good and clean; daily milk, 465 quarts; feed, hay, ensilage, bran and cotton seed meal; stables, good and clean, well ventilated, cement floors; yard, dry, good drainage; water, well; sells milk to Hilliards Creamery Company.

O. Lewis—Number of cows, 16; condition, good; daily milk, 300 quarts; feed, hay, ensilage, corn stalks, bran and cotton seed meal; stables, good and well ventilated, cement floor; yard, dry, with good drainage; water, well; sells milk to Hilliards Creamery Company.

E. H. Page—Number of cows, 10; condition, good; daily milk, 160 quarts; feed, hay, corn stalks, ground corn and oats; stables, good and well ventilated, cement floor; yard, dry, with good drainage; water, well; sells milk to Hilliards Creamery Company.

H. B. Parmalee—Number of cows, 8; condition, good; daily milk, 150 quarts; feed, hay, corn stalks, ground corn and oats, gluten and bran; stables, fair and well ventilated; yard, dry and fairly clean; water, well; sells milk to Hilliards Creamery Company.

Ralph Hazen—Number of cows, 6; condition, good; daily milk, 85 quarts; feed, hay, corn stalks, ground corn and oats; stables, temporary, will build before winter; yard, dry and clean; water, well; sells milk to Hilliards Creamery Company.

At Holland:

Jno. Benkema—Number of cows, 8; condition, good; daily milk, 96 quarts; feed, hay, corn stalks, corn meal, bran and oil meal; stables, good and well ventilated; yard, dry, good drainage; water, well; cools milk in water tank; retails.

C. De Kam—Number of cows, 9; condition, good; daily milk, 90 quarts; feed, hay, corn stalks, bran and middlings; stables, fair, with fair ventilation; yard, dry and clean; water, well; cools milk in water tank; retails.

E. Boreman—Number of cows, 11; condition, good; daily milk, 135 quarts; feed, hay, corn stalks, corn meal, bran and middlings; stables, fair, with fair ventilation; yard, dry; water, well; cools milk in water tank; retails.

H. E. Van Kampen—Number of cows, 25; condition, good; daily milk, 250 quarts; feed, hay, corn stalks, middlings, bran, ground corn and oats; stables, good and well ventilated; yard, dry and clean; water, well; cools milk in iced water tank; retails.

U. Wiersma—Number of cows, 7; condition, fair; daily milk, 84 quarts; feed, hay, corn stalks, bran and corn meal; stables, fair, with fair ventilation; yard, dry, good drainage; water, well; cools milk in water tank; retails.

U. Stelstro—Number of cows, 4; condition, good; daily milk, 48 quarts; feed, hay, corn stalks, corn meal and bran; stables, temporary, are building; yard, dry and clean; water, spring and creek; cools milk in water tank; retails.

Bert Vlick—Number of cows, 8; condition, good; daily milk, 96 quarts; feed, hay, corn stalks, bran and middlings; stables, fair, with fair ventilation; yard, dry; water, stagnant pool; cools milk in water tank; retails.

E. Braarderway—Number of cows, 7; condition, fair; daily milk, 85 quarts; feed, hay, corn stalks, bran and middlings; stables, fair and fairly well ventilated; yard, dry, with good drainage; water, well; sells milk to Van Dyke.

Vlick Bros—Number of cows, 6; condition, fair; daily milk, 72 quarts; feed, hay, corn stalks, corn meal and bran; stables, fair, fairly well ventilated; yard, dry, good drainage; water, well; cools milk in water tank; retails.

Jacob Esenberg—Number of cows, 6; condition, good; daily milk, 80 quarts; feed, hay, corn stalks, corn meal and bran; stables, good and well ventilated; yard, dry, with fair drainage; water, creek; cools in ice tank; retails.

Baas Bros.—Number of cows, 11; condition, good; daily milk, 156 quarts; feed, corn stalks, bran and middlings; stables, good and well ventilated; yard, dry and clean; water, creek; cools milk in tank with ice; retails.

At Ionia:

W. D. Place—Number of cows, 38; condition, good; daily milk, 532 quarts; feed, pasture, hay, corn stalks, corn meal, bran and middlings; stables, low, old and dusty, with poor ventilation; yard, a large amount of manure allowed to accumulate; milk house, in poor condition; cools in spring water; retails in bottles.

Henry W. Jackson—Number of cows, 11; condition, good; daily milk, 131 quarts; feed, pasture, hay, corn stalks, bran and ground corn and oats; stables, low and dusty, with poor ventilation; yard, fairly dry and clean, with good drainage; water, spring; retails.

A. E. Jackson—Number of cows, 16; condition, good and clean; daily milk, 160 quarts; feed, pasture, hay, shredded corn stalks, bean pods, ground corn and oats and bran; stables, fair but dusty, well ventilated but not cleaned regularly; yard, dry and clean, good drainage; water, spring; uses ice to cool milk; retails.

Amos M. Welch—Number of cows, 50; condition, extra good; daily milk, 600 quarts; feed, pasture, hay, ensilage, cow peas, corn fodder, bran and gluten; stables, fine and clean, up-to-date in every particular, water in each stall automatically supplied, extra fine ventilation; condition of yard, dry and clean; water, spring; milk room, neat and clean; engine and boiler, aerator, separator and bottler comprises part of outfit; retails.

F. W. Perse—Number of cows, 5; condition, good; daily milk, 70 quarts; feed, pasture, hay, corn stalks, bran, ground corn and rye; stables, good and clean; well ventilated; yard, dry, with good drainage; water, spring; makes butter.

Smith Jackson—Number of cows, 20; condition, good; daily milk, 200 quarts; feed, pasture, hay, shredded corn stalks, ground corn and oats and bran; stables, old, low, poorly ventilated, floors dirty; yard, bad; water, creek; cools milk in spring water; retails.

At Jackson:

D. B. Webster—Number of cows, 10; condition, extra good; daily milk, 100 quarts; feed, pasture, hay, corn stalks, corn meal, bran and gluten; stables, fine and clean, side and top ventilation, every department scrupulously neat and clean; yard, dry, with good drainage; water, well; milk room, neat and clean; uses aerator with ice; retails.

At Leoni:

Geo. A. Sager—Number of cows, 20; condition, good; daily milk, 200 quarts; feed, pasture, hay, ground corn, peas and bran; stables, clean, contemplates remodeling with all latest improvements; yard, dry, good drainage; water, well; milk room, clean; uses aerator; retails.

E. A. Sager—Number of cows, 30; condition, good; daily milk, 255 quarts; feed, pasture, corn stalks, ground corn and oats and bran; stables, fair, except floors, will repair soon; yard, fair, good drainage; water, well; uses aerator; sells in bottle and bulk.

Frank Nichols—Number of cows, 44; condition, fair; daily milk, 440 quarts; feed, hay, ensilage, bran and gluten; stables, fair, floor old and poor; yard, wet; water, well; uses an aerator; retails.

At Marshall:

G. A. Woolsey—Number of cows, 14; condition, very good; daily milk, 115 quarts; feed, pasture, hay, shredded corn stalks, corn and oats ground; stables, fair and fairly well ventilated; yard, wet and muddy; water, well; cools milk in water tank; retails.

H. L. Lathrop Estate—Number of cows, 24; condition, good; daily milk, 240 quarts; feed, pasture, hay, corn stalks, ground corn and oats and mangels; stables, good, well ventilated; yard, dry, good drainage; water, well; cools milk in water tank; retails.

C. F. Davis—Number of cows, 12; condition, good and clean; daily milk, 120 quarts; feed, pasture, hay, corn stalks, ground corn and oats and bran; stables, fair and well ventilated; yard, fairly dry and clean; water, river; sells milk to Calkins.

Ezra Murdock—Number of cows, 13; condition, good; daily milk, 130 quarts; feed, hay, corn stalks, ground corn, oats and bran; stables, good, well ventilated; yard, fair; water, well; sells cream; uses separator.

Wm. Williamson—Number of cows, 17; condition, good and clean; milk daily, 170 quarts; feed, pasture, hay, corn stalks, ground corn, oats and bran; stables, good and well ventilated; yard, dry, good drainage; water, well; milk room, clean; sells milk and cream.

L. C. Calkins—Number of cows, 8; condition, good; daily milk, 80 quarts; feed, pasture, hay, corn stalks, corn meal, bran and middlings; stables, good, well ventilated; yard, fairly clean; water, well; cools in water tank and uses ice; retails.

At Martin:

T. Barns—Number of cows, 3; condition, good; daily milk, 36 quarts; feed, hay, corn stalks and bran; stables, good, well ventilated; yard, dry, good drainage; water, well; sells milk to Martin Creamery Company.

H. D. Hall—Number of cows, 13; condition, good; daily milk, 156 quarts; feed, hay, ensilage, ground corn and oats, bran; stables, good and fairly well ventilated; yard, dry, good drainage; water, well; sells milk to Martin Creamery Company.

B. Fox—Number of cows, 8; condition, good; daily milk, 80 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair, fairly well ventilated; yard, dry, good drainage; water, well; sells milk to Martin Creamery Company.

Jno. Boss—Number of cows, 4; condition, good; daily milk, 40 quarts; feed, hay, corn stalks and bran; stables, burned, will rebuild; yard, dry and clean; water, well; sells milk to Martin Creamery Company.

A. Anderson—Number of cows, 6; condition, good and clean; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats; stables, building new with improvements; yard, dry and clean; water, well; sells milk to Martin Creamery Company.

W. P. Fenner—Number of cows, 10; condition, extra good; daily milk, 140 quarts; feed, hay, ensilage, corn stalks and bran; stables, fair, will make all necessary improvements; yard, dry and clean; water, well; sells milk to Martin Creamery Company.

T. Monteith—Number of cows, 13; condition, good; daily milk, 130 quarts; feed, hay, ensilage, corn stalks, ground corn and oats; stables, good, well ventilated, cement floor; yard, dry, good drainage; water, well; sells milk to Martin Creamery Company.

R. H. Wiley—Number of cows, 7; condition, good; daily milk, 105 quarts; feed, hay, shredded corn stalks, ground corn and oats; stables, good but poorly ventilated; yard, wet, poor drainage; water, well, sells milk to Martin Creamery Company.

At Osego:

Lewis Yerrick—Number of cows, 20; condition, good; daily milk, 240 quarts; feed, pasture, hay, shredded corn stalks, ground corn and oats and bran; stables, good and well ventilated; yard, dry, with good drainage; water, well; milk room, clean; uses separator; makes butter and sells milk to W. Platt.

J. Lindsley—Number of cows, 19; condition, good; daily milk, 228 quarts; feed, pasture, hay, corn stalks, ground corn and oats, bran and middlings; stables, good, will renovate and whitewash before winter, well ventilated; yard, dry, good drainage; water, well; uses aerator and sells milk to C. Shears.

At Peninsular:

Adolph Brosch—Number of cows, 10; condition, extra good; daily milk, 80 quarts; feed, hay, corn stalks, bran, ground corn and oats;

stables, good and well ventilated; yard, dry and clean; water, well; uses an aerator; milk room, clean; wholesales.

Wm. Haebert—Number of cows, 11; condition, good; daily milk, 135 quarts; feed, hay, corn stalks, bran, ground corn and oats; stables, good, well ventilated, cement floor; yard, dry, good drainage; water, well; milk room, clean; sells milk to Goble.

At Plainwell:

Wm. J. Price—Number of cows, 16; condition, good; daily milk, 160 quarts; feed, pasture, hay, ensilage, shredded corn stalks, oats and bran; stables, good and fairly clean, will thoroughly clean and whitewash before winter; yard, dry, fair drainage; water, well and creek; aerates; sells milk to E. J. Chord.

At Sandstone:

Geo. W. Evens—Number of cows, 22; condition, good; daily milk, 220 quarts; feed, pasture, ensilage, bran and gluten; stables, clean, with fine ventilation; yard, dry, good drainage; water, well; uses aerator; milk house, clean; retails.

At Summit:

H. F. Probert—Number of cows, 48; condition, extra good; daily milk, 400 quarts; feed, pasture, hay, ensilage, bran and middlings; stables, fine, well ventilated, cement floors, iron stalls and feed boxes up to date; yard, dry, with good drainage; water, well; stone milk house, neat and clean; sells milk and cream; uses separator and aerator.

Edw. Pluff—Number of cows, 4; condition, good; daily milk, 40 quarts; feed, pasture, corn stalks, middlings, ground corn and oats; stables, fair and well ventilated; yard, dry, with good drainage; water, well; sells to G. M. Lewis.

J. Franklin—Number of cows, 8; condition, good; daily milk, 80 quarts; feed, pasture, hay, corn stalks, ground corn and oats; stables, good and well ventilated; yard, dry, with good drainage; water, well; retails.

Barbara Wood—Number of cows, 5; condition, fair; daily milk, 50 quarts; feed, pasture, hay, corn stalks and bran; stables, very bad and poorly ventilated, hog pen in stables very filthy; yard, very filthy; water, well; retails.

M. McLaughlin—Number of cows, 10; condition, good; daily milk, 100 quarts; feed, pasture, hay, corn stalks, ground corn, peas and oats; stables, good, well ventilated; yard, dry, with good drainage; water, well; retails.

W. M. Dodge—Number of cows, 21; condition, good; daily milk, 294 quarts; feed, hay, corn stalks, Brewers' grain, gluten meal and bran;

stables, good, well ventilated; yard, dry, with good drainage; water, well; milk house, clean; cools milk in water tank; retails in bottles.

Holmes Smith—Number of cows, 12; condition, good; daily milk, 168 quarts; feed, pasture, hay, corn stalks, corn meal and bran; stables, fair, well ventilated; yard, dry, with fair drainage; water, well, milk room, clean; uses aerator with ice; retails.

Walter Purdy—Number of cows, 15; condition, good; daily milk, 150 quarts; feed, pasture, hay, corn stalks, bran and Brewers' grain; stables, poor, low and dusty, with poor ventilation; yard, dry, good drainage; water, well; milk room, clean, uses aerator; retails.

At Traverse City:

Northern Michigan Insane Asylum—Number of cows, 61; condition, extra good; daily milk, 1,200 quarts; feed, pasture, hay, corn stalks, bran, corn meal and mangels; stables, extra good, neat and clean, well ventilated, modern in every way; yard, dry, clean, good drainage; water, artesian well; milk house, large, neat and clean, with cooling tank and all equipments necessary for caring for a large quantity of milk.

At Wayland:

Parer Truax—Number of cows, 12; condition, good; daily milk, 145 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair, with poor ventilation; yard, dry and clean; water, well; sells milk to Wayland Creamery.

E. S. Allen—Number of cows, 4; condition, good; daily milk, 56 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair and fairly well ventilated; yard, dry and clean; water, well and creek; sells milk to Hilliard Creamery.

D. W. Ward—Number of cows, 5; condition, good; daily milk, 70 quarts; feed, hay, corn stalks, grain, ground corn and oats; stables, good and well ventilated; yard, dry and clean; water, well and spring; sells milk to Wayland Creamery.

Leroy Ring—Number of cows, 6; condition, good; daily milk, 85 quarts; feed, corn stalks, millet, ground corn and oats; stables, fair and fairly well ventilated; yard, dry and clean; water, well and creek; sells milk to Wayland Creamery.

At Zeeland:

E. Bauwman—Number of cows, 5; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats; stables, good and fairly well ventilated; yard, dry, with good drainage; water, well; sells milk to Zeeland Creamery.

T. Wesveld—Number of cows, 4; condition, good; daily milk, 45 quarts; feed, hay, corn stalks, ground corn and rye; stables, good and clean, well ventilated; yard, dry; water, spring; sells milk to Zeeland Creamery.

T. Van Hortsema—Number of cows, 10; condition, good; daily milk, 150 quarts; feed, hay, corn stalks, ground corn and oats; stables, good and clean, well ventilated; yard, dry, with good drainage; water, well and creek; sells milk to Zeeland Creamery.

A. Alting—Number of cows, 5; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, good and well ventilated; yard, dry, with good drainage; water, well; sells milk to Zeeland Creamery.

K. Johnson—Number of cows, 5; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair and fairly well ventilated; yard, dry and clean; water, well; sells milk to Zeeland Creamery.

H. Vradervelt—Number of cows, 6; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats; stables, temporary, thoroughly ventilated; yard, dry and clean; water, well; sells milk to Zeeland Creamery.

D. Neis—Number of cows, 4; condition, good; daily milk, 48 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair, fairly well ventilated; yard, dry and clean; water, well; sells milk to Zeeland Creamery.

Henry Wagles—Number of cows, 8; condition, good; daily milk, 100 quarts; feed, hay, corn stalks, ground corn and oats, beets and cotton seed meal; stables, good and clean, fairly well ventilated; yard, dry, with good drainage; water, spring; sells milk to Zeeland Creamery.

H. J. Geerlings—Number of cows, 8; condition, good; daily milk, 160 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair and fairly well ventilated; yard, dry and clean; water, creek; sells milk to Zeeland Creamery.

J. B. Mulder—Number of cows, 5; condition, good; daily milk, 55 quarts; feed, hay, corn stalks, ground corn and oats; stables, good and well ventilated; yard, dry and clean, with good drainage; water, well; sells milk to Zeeland Creamery.

S. Van Dyke—Number of cows, 3; condition, good; daily milk, 36 quarts; feed, hay, ground corn and oats and bran; stables, good and clean, well ventilated; yard, dry, with good drainage; water, river; sells milk to Zeeland Creamery.

S. Baastra—Number of cows, 4; condition, fair; daily milk, 40 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair, with fair ventilation; yard, dry and clean; water, spring; makes butter.

B. Mulder—Number of cows, 12; condition, good; daily milk, 144 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair, well ventilated; yard, dry, with fair drainage; water, spring; sells milk to Zeeland Creamery.

L. Schridema—Number of cows, 5; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair, fairly well ventilated; yard, dry, good drainage; water, well; sells milk to Zeeland Creamery.

J. Wissink—Number of cows, 4; condition, good; daily milk, 56 quarts; feed, hay, corn stalks and corn meal; stables, good, well ventilated; yard, dry and clean; water, spring; makes butter.

T. Pull—Number of cows, 6; condition, good; daily milk, 60 quarts; feed, hay, corn stalks, ground corn and oats and bran; stables, fair, fairly well ventilated, ground floor; yard, dry and clean; water, spring; sells milk to Zeeland Creamery.

J. Wersink—Number of cows, 6; condition, good; daily milk, 100 quarts; feed, hay, corn stalks, bran, corn and oats; stables, fair, poorly ventilated; yard, dry and clean; water, cistern and creek; sells milk to Zeeland Creamery.

Mrs. H. Vorant—Number of cows, 6; condition, good; daily milk, 85 quarts; feed, hay, corn stalks, ground corn and oats; stables, fair and fairly well ventilated; yard, dry, with good drainage; water, spring; sells milk to Zeeland Creamery.

P. Rooks—Number of cows, 5; condition, good; daily milk, 70 quarts; feed, hay, corn stalks, ground corn and oats; yard, fair; water, pond; sells milk to Zeeland Creamery.

H. Rooks—Number of cows, 5; condition, good; daily milk, 70 quarts; feed, hay, corn stalks, bran, ground corn and oats; stables, fair, fairly well ventilated; yard, dry, good drainage; water, river; sells milk to Zeeland Creamery.

N. Nies—Number of cows, 5; condition, good; daily milk, 50 quarts; feed, hay, corn stalks, ground corn and oats; stables, low and very dirty, poorly ventilated; yard, dry and clean; water, stagnant pool; sells milk to Zeeland Creamery.

K. Sluiter—Number of cows, 5; condition, good; daily milk, 75 quarts; feed, hay, corn stalks, ground corn and oats; stables, poor and dirty.

poorly ventilated; yard, dry and fairly clean; water, well; sells milk to Zeeland Creamery.

A. Shoemaker—Number of cows, 10; condition, good; daily milk, 80 quarts, feed, hay, corn stalks, corn meal and bran; stables, fair and fairly well ventilated; yard, dry, fair drainage; water, spring; cools milk in water tank; retails.

APIARY INSPECTIONS.

At Ashley:

Henry A. Shaw—Number of colonies, 95; condition, fair; flora, clover and fall flowers; yard, fair.

Jno. Kirby—Number of colonies, 55; condition, fair but not working good; flora, fall flowers and clover; honey house, bad; yard, neglected.

Montie—Number of colonies, 4; condition, weak; yard, neglected.

E. J. Barneby—Number of colonies, 12; condition, strong; yard, fair.

Jake Brewbaker—Number of colonies, 2; condition, fair in strength but diseased; yard, fair; treatment about half done.

Robenolt Estate—Number of colonies, 12; condition, very weak, all but one diseased; yard, bad; objected to inspection.

Geo. Mitchell—Number of colonies, 20; condition, strong; flora, clover and fall flowers, asters, etc.; yard, grown up to weeds, neglected.

E. L. Henry—Number of colonies, 1; condition, weak and diseased.

P. Manchester—Number of colonies, 12; condition, strong; yard, fair.

W. H. Steadman—Number of colonies, 9; condition, diseased, one weak, others fair; yard, fair; objected to inspection.

Wm. Wray—Number of colonies, 110; condition, strong; honey sold in past year, 3,400 pounds; flora, clover (white and alsike) and fall flowers; honey house, neat and clean; yard, neatly arranged and in perfect order; an exceptionally good apiarist.

E. W. Corbin—Number of colonies, 4; condition, fair; yard, neat.

Wm. Coon—Number of colonies, 2; condition, fair; yard, neat.

F. H. Lane—Number of colonies, 2; condition, strong; yard, neat.

Warren Smith—Number of colonies, 3; condition, very weak; yard, diseased combs laying around, very much neglected.

L. Knight—Number of colonies, 2; condition, strong; yard, neat.

L. F. Corbin—Number of colonies, 4; condition, strong; yard, neat.

At Bannister:

E. J. Hayes—Number of colonies, 3; condition, strong.

W. H. Payne—Number of colonies, 3; condition, strong.

C. H. Root—Number of colonies, 6; condition, fair, three diseased; flora, fall flowers in abundance; yard, fair.

At Bonney:

R. C. Bruen—Number of colonies, 1.

At Clayton:

Jas. Brockett Sellick—Number of colonies, 3; condition, fair.

Frederick Henning—Number of colonies, 10; condition, fair; hives, old and in bad shape.

C. A. Huff—Number of colonies, 85; condition, strong except three diseased ones; flora, clover and asters; honey house, neat; yard, neat but not well arranged.

At Geneva:

W. O. Haskins—Number of colonies, 2; condition, one diseased; yard, diseased fixtures piled up.

At Hudson:

N. P. Nie—Number of colonies, 3; condition, diseased and very weak; yard, bad.

Ed. Goodrich—Number of colonies, 10; condition, fair; has destroyed his diseased colonies.

H. J. Jennings—Number of colonies, 16; condition, strong; received no attention.

J. H. Ames—Number of colonies, 5; condition, strong; careful apiarist.

Geo. W. Whitbeck—Number of colonies, 83; condition, fair; flora, clover; yard, very neat; good apiarist.

At North Star:

Jno. Willis—Number of colonies, 5; condition, strong; yard, neat.

At Windom:

Andrew A. Belcher—Number of colonies, 1; condition, diseased; yard, diseased fixtures piled up within reach of other bees.

C. L. Shillings—Number of colonies, 1, condition, diseased.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;

2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;

3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;

4. If it is in imitation of, or is sold under the name of another article;

5. If it consist wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better

or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream Cheese," or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full

Cream Cheese.—May be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts of Vanilla and Tonka may be mixed and sold as "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract vanilla and tonka as "Extract of Vanilla" or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. It must be understood that when an extract of vanilla and tonka is labeled with both names, the type used is to be similar in style and size, and that one name is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., are prohibited by law.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolied Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and every package must be distinctly labeled "Lard Compound," "Adulterated Lard" or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and 12½ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

Oleomargarine must not contain artificial coloring matter.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc., it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

All black pepper shall contain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredient injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT

LANSING

W. B. SNOW,	-	-	-	-	-	-	-	COMMISSIONER
GEO. H. BUSSEY,	-	-	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	-	-	STATE ANALYST

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR, JULY 1, 1901.

Cases pending July 1, 1901.....	56
Cases commenced since said date.....	27
Cases nolle prossed.....	0

CASES DISPOSED OF.

Before Examining Magistrates	1	{	Defendants bound over to trial courts....	1
			Defendants discharged on examination....	0
In Trial Courts	19	{	Defendants convicted	18
			Defendants acquitted	1
Cases pending November 1, 1901				64

PROCEEDINGS HAD DURING MONTH OF OCTOBER.

Complaint was made July 27 in justice court of Muskegon against John Morse, agent for H. C. Fisher, Chicago, Ill., charged with selling adulterated black pepper. Examination set for November 5, 1901.

Complaint was made September 26 in the recorder's court of the city of Kalamazoo against Wm. G. VanKersen, charged with having sold oleomargarine artificially colored. Examination set for October 30; adjourned to November 7.

Complaint was made September 26 in the recorder's court of the city of Kalamazoo against Thomas J. Sloan, charged with having sold artificially colored oleomargarine. Examination set for October 30; adjourned to November 7.

Complaint was made September 26 in the recorder's court of the city of Kalamazoo against Samuel Hoekstra, charged with having sold oleomargarine artificially colored. Examination set for October 30; adjourned to November 7.

Complaint was made September 26 in the recorder's court of the city of Kalamazoo against John W. Phillips, charged with having sold oleomargarine artificially colored. Examination set for October 30; adjourned to November 7.

Complaint was made November 8 in justice court of city of Battle Creek against Will H. Hamilton of Battle Creek, charged with selling colored oleomargarine. Examination set for December 3.

Complaint was made November 8 in justice court of city of Petoskey against Wm. A. Major of Petoskey, charged with selling colored oleomargarine. Examination was held on November 25 and defendant bound over to the circuit court for the county of Emmet for trial.

Complaint was made November 13 in police court of city of Bay City against Joseph Valliere of South Bay City, charged with selling oleomargarine and not properly labeling same. The defendant waived examination November 13, and was bound over to the circuit court for the county of Bay for trial.

Complaint was made November 13 in police court of city of Bay City against Joseph Valliere of South Bay City, charged with selling oleomargarine for creamery butter. Defendant waived examination November 13 and was bound over to the circuit court for the county of Bay for trial.

Complaint was made November 18 in police court of city of Bay City against James H. Moore of Vassar, charged with selling process butter and not properly labeling same. Defendant on November 18 entered a plea of guilty and a fine of \$25 and costs was imposed by the court.

Complaint was made November 19 in police court of city of Bay City against Eben F. Dudley of Owosso, charged with selling process butter and not properly labeling same. Defendant on November 19 entered a plea of guilty and a fine of \$50 and costs was imposed by the court.

Complaint was made November 26 in justice court of city of Petoskey against Colby-Hinkley Co. of Alanson, charged with selling colored oleomargarine. Examination was held November 27 and defendant bound over to the circuit court for the county of Emmet for trial.

Complaint was made November 26 in justice court of city of Petoskey against George W. Rotter of Alanson, charged with selling colored oleomargarine. Examination was held November 27 and defendant bound over to the circuit court for the county of Emmet for trial.

In the case pending in justice court of city of Muskegon against John Morse, agent for H. C. Fisher, Chicago, Ill., charged with selling adulterated black pepper, examination was held on November 5 and defendant bound over to circuit court for the county of Muskegon for trial. Arraigned November 19, defendant entered a plea of not guilty, was tried and convicted. Stay of forty days granted pending an appeal to the supreme court.

In the case pending in recorder's court of city of Kalamazoo against Wm. G. VanKersen of Kalamazoo, charged with selling colored oleo-margarine, defendant waived examination November 7 and was bound over to the circuit court for the county of Kalamazoo for trial.

In the case pending in recorder's court of city of Kalamazoo against Thomas J. Sloan of Kalamazoo, charged with selling colored oleo-margarine, defendant waived examination November 7 and was bound over to the circuit court for the county of Kalamazoo for trial.

In the case pending in recorder's court of city of Kalamazoo against Samuel Hoekstra of Kalamazoo, charged with selling colored oleo-margarine, defendant waived examination November 7 and was bound over to the circuit court for the county of Kalamazoo for trial.

In the case pending in recorder's court of city of Kalamazoo against John W. Phillips of Kalamazoo, charged with selling colored oleo-margarine, examination was held November 7 and defendant bound over to the circuit court for the county of Kalamazoo for trial.

In the case pending in justice court of city of Muskegon against John H. Spoelman of Muskegon, charged with selling colored oleo-margarine, examination was held November 6 and defendant bound over to circuit court for the county of Muskegon for trial.

In the case pending in justice court of city of Muskegon against Daniel Christie of Muskegon, charged with selling colored oleomargarine, examination was held November 6 and defendant bound over to circuit court for the county of Muskegon for trial.

In the case pending in justice court of city of Muskegon against M. Knoohuizen, of Muskegon, charged with selling colored oleomargarine, defendant waived examination November 11 and was bound over to the circuit court of the county of Muskegon for trial. On November 19, defendant entered a plea of guilty. Sentence deferred.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., November 30, 1901.

HON. W. B. SNOW, *Dairy and Food Commissioner*:

SIR—During the month of November, 85 samples of food products have been examined, 17 being pure and 68 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Article.	Total.	Number pure.	Number adulterated.
Allspice.....	1	1	0
Buckwheat flour.....	1	1	0
Butter.....	7	0	7
Cinnamon.....	1	1	0
Cloves.....	2	1	1
Ginger.....	2	2	0
Honey.....	1	1	0
Lard.....	2	0	2
Mustard.....	1	1	0
Oleomargarine.....	68	8	58
Pepper.....	1	1	0
Totals.....	85	17	68

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUTTER.

No. R-73. Sample of butter from W. B. Anderson, Pontiac.

Producer, **E. F. Dudley, Owosso, Mich.**

Sample is process butter. Package not properly labeled.

No. R-74. Sample of butter from W. B. Anderson, Pontiac.

Producer, **E. F. Dudley, Owosso, Mich.**

Sample is process butter. Package not properly labeled.

No. R-75. Sample of process butter from Chas. L. Bertch, Bay City.

Producer, **James H. Moore, Vassar, Mich.**

Package not properly labeled.

No. R-80. Sample of creamery butter from Joseph Valliere, Bay City.

Producer, **G. H. Hammond Co., Hammond, Ind.**

Sample is oleomargarine artificially colored.

No. R-84. Sample of creamery butter from Frank Scheffer, Bay City.

Producer, **Illinois Creamery Co., Chicago, Ill.**

Sample is process butter.

No. R-86. Sample of "Litchfield County Print Butter" from Hammond, Standish & Co., Bay City.

Producer, **E. F. Dudley, Owosso, Mich.**

Sample is process butter.

No. R-97. Sample of butter from Wm. E. Tapert, Bay City.

Producer, **Illinois Creamery Co., Elgin, Ill.**

Sample is process butter.

CLOVES.

No. L-172. Sample of ground cloves from F. H. Henderson & Son, Rapid City.

Sold (1900) by **H. C. Fisher, Chicago, Ill.**

Producer, **H. C. Fisher, Chicago, Ill.**

Total ash 6.92 per cent.

Ash insoluble in hydrochloric acid (sand) 1.00 " "

Microscopical examination shows the presence of foreign starchy matter.

LARD.

No. R-83. Sample of lard from Frank Scheffer, Bay City.

Producer, Frank Scheffer, Bay City, Mich.

Refractive index at 40° C.....	1.4605
Halpen's test	Red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

No. R-85. Sample of lard from Applebee & Co., Bay City.

Producer, Stingel Bros., Saginaw, Mich.

Refractive index at 40° C.....	1.4613
Halpen's test	Deep red.
Bechi test	Black.
Belfield test	Beef stearine.

Lard compound.

OLEOMARGARINE.

No. K-279. Sample of oleomargarine, from John M. Cook, Grand Haven.

Producer, J. J. Murray Butterine Co., Chicago, Ill.

Oleomargarine artificially colored.

No. K-281. Sample of oleomargarine, from John M. Cook, Grand Haven.

Producer, G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. K-282. Sample of oleomargarine, from Cornelius M. Phemabucq, Grand Haven.

Producer, G. H. Hammond, Co., Hammond, Ind.

Oleomargarine artificially colored.

No. K-286. Sample of oleomargarine, from Thomasina Bros., Grand Rapids.

Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-287. Sample of oleomargarine, from Philip Hilber, Grand Rapids.

Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-288. Sample of oleomargarine, from Fred R. Dodge, Grand Rapids.

Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-289. Sample of oleomargarine, from Arthur J. Lane, Grand Rapids.

Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-290. Sample of oleomargarine, from James T. Hughes, Grand Rapids.

Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-291. Sample of oleomargarine, from L. J. Katz, Grand Rapids.

Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. K-292. Sample of oleomargarine, from Freund Bros., St. Joseph.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. L-174. Sample of oleomargarine, from Antrim Iron Co., Antrim.
Producer, G. H. Hammond Co., Chicago, Ill.
Oleomargarine artificially colored.

No. L-175. Sample of oleomargarine, from Colby Hinkley Co., Alanson.
Sold (1901) by Swift & Co., Chicago, Ill.
Producer, Swift & Co., Chicago, Ill.
Oleomargarine artificially colored.

No. L-177. Sample of oleomargarine, from George W. Rotter, Alanson.
Sold (1901) by G. H. Hammond Co., Hammond, Ind.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. R-89. Sample of oleomargarine, from Wm. Walther, Bay City.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. R-90. Sample of oleomargarine, from E. W. Funnel, Bay City.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. R-94. Sample of oleomargarine, from The King & Moore Co., Saginaw.
Producer, Ohio Butterine Co., Cincinnati, Ohio.
Oleomargarine artificially colored.

No. S-47. Sample of oleomargarine, from Robert Downie & Sons, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-48. Sample of oleomargarine, from Robert Downie & Sons, Detroit.
Producer, Ohio Butterine Co., Cincinnati, Ohio.
Oleomargarine artificially colored.

No. S-49. Sample of oleomargarine, from Jarvis Bros., Detroit.
Producer, Ohio Butterine Co., Cincinnati, Ohio.
Oleomargarine artificially colored.

No. S-50. Sample of oleomargarine, from M. K. Chandler, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-51. Sample of oleomargarine, from M. K. Chandler, Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, Capitol City Dairy Co., Columbus, Ohio.
Oleomargarine artificially colored.

No. S-52. Sample of oleomargarine, from A. W. Lenz & Co., Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-53. Sample of oleomargarine, from Anthony Schneider, Detroit.
Producer, Braun & Fitts, Chicago, Ill.
Oleomargarine artificially colored.

No. S-54. Sample of oleomargarine, from M. K. Chandler, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-55. Sample of oleomargarine, from Orth Grocery Co., Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-56. Sample of oleomargarine, from Boston Coffee Co., Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, Capitol City Dairy Co., Columbus, Ohio.
Oleomargarine artificially colored.

No. S-57. Sample of oleomargarine, from Benjamin Rose, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-58. Sample of oleomargarine, from Benjamin Rose, Detroit.
Producer, Ohio Butterine Co., Cincinnati, Ohio.
Oleomargarine artificially colored.

No. S-59. Sample of oleomargarine, from Library Tea Store, Detroit.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. S-60. Sample of oleomargarine, from Library Tea Store, Detroit.
Producer, Capitol City Dairy Co., Columbus, Ohio.
Oleomargarine artificially colored.

No. S-61. Sample of oleomargarine, from Edward Raulo, Detroit.
Producer, Capitol City Dairy Co., Columbus, Ohio.
Oleomargarine artificially colored.

No. S-62. Sample of oleomargarine, from Edward Raulo, Detroit.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. S-63. Sample of oleomargarine, from Charles Addison, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-64. Sample of oleomargarine, from Chas. Addison, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-65. Sample of oleomargarine, from Addison Bros., Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-66. Sample of oleomargarine, from Addison Bros., Detroit.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-67. Sample of oleomargarine, from Schneider Tea & Coffee Co., Detroit.
Producer, **Braun & Fitts, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-68. Sample of oleomargarine, from Schneider Tea & Coffee Co., Detroit.
Producer, **Swift Beef Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. S-69. Sample of oleomargarine, from J. Miller & Co., Delray.
Sold by **Michigan Produce Co., Detroit, Mich.**
Producer, **Capitol City Dairy Co., Columbus, Ohio.**
Oleomargarine artificially colored.

No. S-70. Sample of oleomargarine, from H. J. Eberhard, Delray.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-71. Sample of oleomargarine, from H. J. Eberhard, Delray.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-72. Sample of oleomargarine, from Carl Dice, Wyandotte.
Sold (1901) by **Michigan Produce Co., Detroit, Mich.**
Producer, **Capitol City Dairy Co., Columbus, Ohio.**
Oleomargarine artificially colored.

No. S-73. Sample of oleomargarine, from Carl Dice, Wyandotte.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. S-74. Sample of oleomargarine, from J. Gerardin, Wyandotte.
Sold (1901) by **Michigan Produce Co., Detroit, Mich.**
Producer, **Capitol City Dairy Co., Columbus, Ohio.**
Oleomargarine artificially colored.

No. S-75. Sample of oleomargarine, from Lafer Bros., Detroit.
Producer, **Union Dairy Co., Cleveland, Ohio.**
Oleomargarine artificially colored.

No. S-76. Sample of oleomargarine, from McWilliams & Moore, Detroit.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-77. Sample of oleomargarine, from McWilliams & Moore, Detroit.
Producer, **Ohio Butterine Co., Cincinnati, Ohio.**
Oleomargarine artificially colored.

No. S-80. Sample of oleomargarine, from C. Heilderscheid, Detroit.
Producer, **Ohio Butterine Co., Cleveland, Ohio.**
Oleomargarine artificially colored.

No. S-81. Sample of oleomargarine, from Chandler Egg & Butter Co., Detroit.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-82. Sample of oleomargarine, from Hammond Standish Co., Detroit.
Producer, **Braun & Fitts, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-83. Sample of oleomargarine, from Hammond Standish Co., Detroit.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. S-84. Sample oleomargarine, from Imperial Tea Store, Detroit.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. S-85. Sample of oleomargarine, from Imperial Tea Store, Detroit.
Producer, **Capitol City Dairy Co., Columbus, Ohio.**
Oleomargarine artificially colored.

No. S-86. Sample of oleomargarine, from Dunlop & George, Ypsilanti.
Producer, **Ohio Butterine Co., Cleveland, Ohio.**
Oleomargarine artificially colored.

No. S-87. Sample of oleomargarine, from Lamb & Spencer, Ann Arbor.
Producer, **Ohio Butterine Co., Cincinnati, Ohio.**
Oleomargarine artificially colored.

No. S-88. Sample of oleomargarine, from Rimsey & Seabolt, Ann Arbor.
Producer, **Ohio Butterine Co., Cincinnati, Ohio.**
Oleomargarine artificially colored.

No. S-89. Sample of oleomargarine, from Miller & Pray, Ann Arbor.
Producer, **Ohio Butterine Co., Cincinnati, Ohio.**
Oleomargarine artificially colored.

No. S-91. Sample of oleomargarine, from F. Stabler, Ann Arbor.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

INSPECTIONS.

The following places were visited by the department's inspection force during the month of November:

Adrian, Alanson, Ann Arbor, Antrim, Bay City, Calumet, Chassell, Coldwater Constantine, Delray, Detroit, Dowagiac, East Houghton, Essexville, Grand Haven, Grand Rapids, Hillsdale, Isle Royal Mine, Jackson, Kalkaska, Lawton, Monroe, Niles, Northport, Pontiac, Red Jacket, Schoolcraft, Sturgis, Three Rivers, Wayne Wyandotte, Ypsilanti.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of November:

At Adrian:

L. E. Oldes—Condition of cows, good; feed, hay, ensilage, corn, oats; stables, clean, good; yard, dry, clean; water, spring.

Baldwin Bros.—Condition of cows, good; feed, hay, corn, bran, cotton-seed meal, oats; stables, clean, good; yard, dry, clean; water, well.

B. S. Allen—Condition of cows, good; feed, hay, corn, oats; stables, fair; yard, dry, clean; ventilation, good; water, well.

F. S. Tayer—Condition of cows, good; feed, hay, cornstalks, bran, oil meal; stables, good, clean; yard, dry, clean; water, well, spring; uses aerator.

C. Walker—Condition of cows, good; feed, hay, corn, oats; stables, good; yard, good, clean; water, well.

W. H. Townsend—Condition of cows, good; feed, hay, corn, oats; stables, good, clean; yard, dry, clean; water, well; uses aerator.

F. J. Shannon.—Condition of cows, good; feed, hay, corn, oats; stables, fair, fairly clean; yard, dry; fairly clean; water, well.

At Ann Arbor:

James Murphy—Condition of cows, good; feed, hay, corn, bran, cotton-seed meal; stables, good, clean; yard, good, clean; water, spring.

J. O'Hara—Condition of cows, good; feed, hay, fodder, bran, gluten, corn, oats; stables, fair; yard, fair; water well; uses aerator.

E. Besch—Condition of cows, good; feed, hay, ensilage, cornmeal, oats; stables, poor; yard, wet but clean; water, well; uses aerator.

J. Chalmers—Condition of cows, good; feed, hay, corn, bran, gluten, meal; stables, good, clean; yard, dry, clean; water, well, creek; uses aerator and separator.

T. J. Chandler—Condition of cows, good; feed, hay, ensilage, bran; stables, good, clean; yard, dry, clean; water, well; uses aerator.

F. H. Ticknor—Condition of cows, good; feed hay, corn, bran; stables, good clean; yard, dry, clean; water, well, spring; uses aerator.

W. G. Price—Condition of cows, good; feed, hay, corn, bran, gluten, oats; stables, good, clean; yard, dry, clean; water well.

N. Woodmasy—Condition of cows, good; feed, hay, cornstalks, bran, gluten; stables, good, clean; yard, fair, clean; water, city; uses aerator and separator.

Behringer & Wooster—Condition of cows, good; feed, hay, corn, bran, oats; stables, good, clean; yard, dry, fairly clean; water, well.

F. B. & C. Brown—Condition of cows, good; feed, hay, cornstalks, bran; stables, good, clean; yard, dry, clean; water, well.

Excelsior Dairy—Condition of cows, good; feed, ensilage, shredded cornfodder; stables, good, clean; yard, wet, fairly clean; water, well; uses aerator.

Lerg's City Dairy—Condition of cows, good; feed, hay, cornstalks, millet, oats; stables, good, clean; yard, dry, clean; water, spring, well.

G. W. McCalla—Condition of cows, good; feed, hay, cornstalks, bran; stables, good, clean; yard, dry, clean; water, well.

Geo. W. Tower—Condition of cows, good; feed, hay, ensilage, bran, gluten meal; stables, good, clean; yard, fair; water, spring; uses aerator.

At Coldwater:

John Buggie—Condition of cows, good; feed, hay, corn, oats; stables, old, poor, dirty; yard, dry, clean; water, well.

Frank Angevine—Condition of cows, fair; feed, hay, ensilage, corn, bran; stables, fair, clean; yard, dry, clean; water, well; uses aerator.

State Orphan School—Condition of cows, fine; feed, hay, cornstalks, beets, oats, bran; stables, extra clean; yard, dry, clean; water well.

O. Warford—Condition of cows, extra good; feed, hay, corn, oats; stables, good, fairly clean; yard, dry, clean; water, well.

M. Buys—Condition of cows, fair; feed, hay, corn, bran, oats, barley; stables, fair; yard, dry, clean; water, well.

J. S. Martin—Condition of cows, good; feed, hay, corn, bran, oats; stables, good, clean; yard, dry, clean; water, well.

Neal & Angevine—Condition of cows, good, extra clean; feed, hay, ensilage, gluten meal, corn, oats; stables, extra good, clean; yard, dry, extra clean; ventilation, of the best; water, well.

At Constantine:

Tracey Bros.—Condition of cows, good; feed, hay, corn, bran; stables, fair; yard, fair; water, well; milk room, neat.

At Grand Rapids:

H. Stevens—Condition of cows, good; feed, stover, cornmeal, bran; stables, good, clean; yard, wet; water, spring.

C. F. Nason—Condition of cows, good; feed, hay, stover, bran, corn, oats, stables, good, clean; yard, dry, good drainage; water, well.

D. D. Krum—Condition of cows, good; feed, hay, stover, cornmeal, bran; stables, good, clean; yard, dry, clean; water, well.

W. McCrath—Condition of cows, good; feed, hay, stover, cornmeal, bran; stables, good, clean; yard, dry, clean; water, well.

M. T. McNamara—Condition of cows, good; feed, hay, stover, ensilage, cornmeal, bran; stables, good, clean; yard, dry, clean; water, well.

L. J. Tenckinch—Condition of cows, good; feed, stover, ensilage, bran, cornmeal, oil meal; stables, good, clean; yard, dry; water, well.

David Hilton—Condition of cows, good; feed, hay, stover, bran, cornmeal; stables, good, clean; yard, dry, clean; water, well.

A. Rudell—Condition of cows, good; feed, hay, corn, ensilage, bran; stables, good, clean; yard, dry; water, spring.

A. Hazelwood—Condition of cows, good; feed, hay, stover, bran, ground corn, oats; stables, good, cement floors; yard, dry, clean; water, well.

C. S. Briggs—Condition of cows, good; feed, hay, stover, ensilage, bran, dry malt, ryemeal; stables, good, clean; yard, dry; water, well; uses aerator.

A. H. Guild (Mgr. Comstock Dairy)—Condition of cows, good; feed, hay, corn, ensilage, bran, gluten; stables, good, clean; yard, dry, clean; water, spring, piped in stable; uses aerator and separator.

K. Leenbloaar—Condition of cows, good; feed, hay, stover, malt, bran; stables, good, clean; yard, dry, clean; water, well.

G. Sprout—Condition of cows, good; feed, hay, stover, bran, oilmeal, ryemeal; stables, low, small, close; yard, dry, clean; water well.

Woodworth Bros.—Condition of cows, good; feed, hay, stover, ensilage, bran; stables, fine, clean; yard, dry, clean; water, well, large reservoir in barn.

J. Fenemer—Condition of cows, good; feed, cornfodder, bran, cornmeal; stables, good, fairly clean; yard, dry; water, well, creek.

R. Overhalt—Condition of cows, good; feed, hay, cornfodder, ensilage, bran, cornmeal; stables, good, clean; yard, dry, clean; water, well.

I. J. and F. D. Cutler—Condition of cows, good; feed, hay, cornfodder, ensilage, beets; stables, good, new; yard, dry, clean; water, well; uses aerator.

R. Wormmeester—Condition of cows, poor, dirty; feed, cornfodder, bran, oats; stables, poor, close; yard, bad, dirty; water, creek.

Geo. F. Richardson—Condition of cows, good; feed, stover, millet, ensilage, bran, cottonseed meal, beets; stables, good, clean; yard, dry, clean; water, well, spring; uses aerator.

Balin Bros.—Condition of cows, good; feed, hay, cornfodder, ensilage, cornmeal, bran; stables, good, clean; yard, dry, clean; water, well; uses aerator and separator.

L. J. Rindge—Condition of cows, good; feed, hay, cornfodder, ensilage, cornmeal, bran; stables, good, clean; yard, dry, clean; water, well.

N. D. Carpenter—Condition of cows, good; feed, hay, cornfodder, bran, gluten; stables, good, clean; yard, dry, clean; water, well, spring; uses aerator.

G. Dillenbeck—Condition of cows, good; feed, hay, cornfodder, bran, middlings, cornmeal; stables, good, dusty; yard, dry; water, well.

H. Powers—Condition of cows, good; feed, hay, cornfodder, bran, cornmeal; stables, fair; yard, dry, good; water, well.

G. Zuidence—Condition of cows, good; feed, hay, cornmeal, bran; stables, good, clean; yard, dry, clean; water, well.

A. Mahl—Condition of cows, good; feed, hay, cornfodder, bran, cornmeal; stables, good, clean; yard, dry, clean; water, well.

At Hillsdale:

H. Decker—Condition of cows, good; feed, hay, corn, oats, bran; stables, good, clean; yard, dry, clean; water, city.

A. Worthing—Condition of cows, fair; feed, cornstalks, corn; stables, fair, dusty; yard, fairly dry, clean; water, well; ventilation, fair.

J. H. Chapple—Condition of cows, good; feed, hay, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

A. D. Morley—Condition of cows, good; feed, hay, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

C. H. Morgan—Condition of cows, good; feed, hay, cornstalks, bran, cornmeal, oats; stables, fair, fairly clean; yard, dry, clean; water, well.

At Monroe:

J. Mayer—Condition of cows, good; feed, hay, cornstalks, bran, middlings; stables, dirty; ventilation, fair; yard, dirty; water, well; uses aerator.

Henry Shunrstein—Condition of cows, good; feed, hay, cornstalks, bran, ground corn, oats, oilmeal; stables, good, clean; yard, dry, clean; water, well; uses aerator.

L. J. Quell—Condition of cows, fine; feed, hay, cornstalks, bran, ground corn, oats, barley; stables, good, clean; yard, dry, clean; water, well.

Rupp Bros.—Condition of cows, good; feed, hay, cornstalks, bran, ground corn, oats; stables, good, clean; yard, dry, clean; water, river.

At Schoolcraft:

J. M. Van Duzen—Condition of cows, good; feed, ensilage, straw, bran; stables, good, clean; yard, dry, clean; water, well; uses separator.

Harry Smith—Condition of cows, good; feed, hay, stover, bran, ground corn, oats; stables, fair, fairly clean; yard, dry, clean; water, well.

Geo. McCrary—Condition of cows, good; feed, hay, straw, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

At Sturgis:

Chas. Hoopingarner—Condition of cows, good; feed, hay, cornstalks, bran, ground corn, oats; stables, very low, close, clean; yard, dry, clean; water, well.

J. D. Hoopingarner—Condition of cows, fair, fairly clean; feed, hay, cornstalks, bran, ground corn, oats; stables, fair, some cobwebs; yard, clean; drainage, good; water, well, spring.

Wm. Tattersall—Condition of cows, good; feed, hay, shredded cornstalks, cornmeal, bran, middlings; stables, good, clean; yard, dry, clean; water, well.

E. E. Sheap—Condition of cows, good, fairly clean; feed, hay, cornstalks, ground corn, bran, oats; stables, fair, some dust; yard, fair, drainage, poor; water, well; uses aerator.

At Three Rivers:

J. Shaeffer—Condition of cows, good; feed, hay, stover, bran, cornmeal; stables, good, clean; yard, dry, clean; water, well.

C. E. Knapp & Son—Condition of cows, fair; feed, hay, cornfodder, bran, middlings; stables, good, clean; yard, fair; water, well.

S. S. Reed—Condition of cows, good; feed, hay, ensilage, stover, bran; stables, good, fairly clean; yard, dry, clean; water, spring.

N. Crafford—Condition of cows, good; feed, hay, stover, bran, cornmeal; stables, good, clean; yard, dry, clean; water, well; uses separator.

F. Keller & Son—Condition of cows, good; feed, hay, stover, bran, ground corn, oats, mangles; stables, good, clean; yard, dry, clean; water, well; uses separator.

At Wayne:

H. Avery—Condition of cows, good; feed, cornfodder and bran; stables, good, clean; yard, dry, clean; water, well.

H. Carlson—Condition of cows, good; feed, hay, ensilage, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

Austin Bros.—Condition of cows, good; feed, shredded cornstalks, cornmeal; stables, good, clean; yard, dry, clean; water, river.

Edgar Boyce—Condition of cows, good; feed, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

B. Boyce—Condition of cows, good; feed, cornfodder, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

At Wyandotte:

F. S. Taylor—Condition of cows, good; feed, hay, cornstalks, bran, oilmeal; stables, good, clean; yard, dry, clean; water, spring.

J. Newenan—Condition of cows, good, clean; feed, hay, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

Henry Bailey—Condition of cows, good; feed, hay, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

C. Heath—Condition of cows, good; feed, hay, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

Walter Coon—Condition of cows, good; feed, hay, cornstalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

Shoemaker Farm Dairy—Condition of cows, good; feed, hay, cornstalks, bran, sugar beets; stables, good, clean; yard, dry, clean; water, spring.

At Ypsilanti:

Robert Barns—Condition of cows, good; feed, hay, ensilage, bran, ground corn, oats; stables, good, clean; yard, dry, clean; water, spring.

Scatney Bros.—Condition of cows, good; feed, hay, cornstalks, ground corn, oats; stables, fair, fairly clean; yard, dry, clean; water, spring, well; uses aerator.

Elmer Brown—Condition of cows, good; feed, hay, ensilage, bran; stables, good, clean; yard, dry, clean; water, spring; uses aerator.

O. A. Ainsworth—Condition of cows, good; feed, hay, corn, oats, ensilage; stables, good; yard, dry, clean; water, well, city; uses aerator.

S. S. Hamilton—Condition of cows, good; feed, hay, corn, oats; stables, fair, fairly clean; yard, dry, clean; water, well.

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consist wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

- Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream

Cheese, or "Full Milk Cheese." Cheese factories where milk or cheese is purchased or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color. This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts of Vanilla and Tonka may be mixed and sold as "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract vanilla and tonka as "Extract of Vanilla" or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. It must be understood that when an extract of vanilla and tonka is labeled with both names, the type used is to be similar in style and size, and that one name is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., are prohibited by law.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and

every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituos, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

Oleomargarine must not contain artificial coloring matter.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc.,

it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

All black pepper shall contain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredients injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from distilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

STATE OF MICHIGAN

DAIRY AND FOOD DEPARTMENT



BY AUTHORITY

STATE OF MICHIGAN
DAIRY AND FOOD DEPARTMENT
LANSING

W. B. SNOW,	-	-	-	-	-	-	-	COMMISSIONER
GEO. H. BUSSEY,	-	-	-	-	-	-	-	DEPUTY COMMISSIONER
R. E. DOOLITTLE,	-	-	-	-	-	-	-	STATE ANALYST

PROSECUTIONS.

SINCE BEGINNING OF FISCAL YEAR, JULY 1, 1901.

Cases pending July 1, 1901.....	56
Cases commenced since said date.....	47
Cases nolle prossed	41

CASES DISPOSED OF.

Before Examining Magistrates 16	{ Defendants bound over to trial courts...	22
	{ Defendants discharged on examination..	0
In Trial Courts..... 29	{ Defendants convicted.....	28
	{ Defendants acquitted.....	1
Cases pending January 1, 1902		33

PROCEEDINGS HAD DURING MONTH OF DECEMBER.

Complaint was made September 2 in justice court of city of Cheboygan against O. D. Fisher, agent for W. I. Brotherton of Bay City, Mich., charged with selling adulterated pepper. Examination was held December 16 and defendant bound over to the circuit court for the county of Cheboygan for trial.

Complaint was made September 16 in justice court of city of Cheboygan against O. D. Fisher, agent for W. I. Brotherton of Bay City, Mich., charged with selling adulterated pepper. Examination was held December 16 and defendant bound over to the circuit court for the county of Cheboygan for trial.

Complaint was made September 16 in justice court of city of Cheboygan against O. D. Fisher, agent for W. I. Brotherton of Bay City, Mich., charged with selling adulterated pepper. Examination was held December 16 and defendant bound over to the circuit court for the county of Cheboygan for trial.

Complaint was made October 31 in justice court of city of Three Rivers against D. J. Kelly, agent for Whitman Bros., South Bend, Ind.,

charged with selling adulterated jelly. Defendant waived examination December 16 and was bound over to the circuit court for the county of St. Joseph for trial.

Complaint was made December 10 in police court of city of Bay City against Wm. A. O'Donnell, representing Illinois Creamery Co. of Elgin, Ill., charged with selling process butter not properly labeled. Examination held December 11; adjourned to December 17. Defendant pleaded guilty and a fine of \$30 was imposed by the court.

Complaint was made December 11 in justice court of city of Bellaire against Charles Weiffenbach of Bellaire, charged with selling colored oleomargarine. Examination was held December 11 and defendant bound over to the circuit court for the county of Antrim for trial.

Complaint was made December 17 in justice court of city of Saginaw against Wm. C. Cornwell, representing Saginaw Beef Co. of Saginaw, Mich., charged with having in possession process butter not properly labeled. Defendant on December 17 entered a plea of guilty and a fine of \$25 was imposed by the court.

Complaint was made December 17 in justice court of city of Cheboygan against Moses DeGowin of Cheboygan, charged with selling colored oleomargarine. Examination held December 17 and defendant bound over to the circuit court for the county of Cheboygan for trial.

Complaint was made December 28 in justice court of city of Mancelona against Antrim Iron Co. of Antrim, charged with selling colored oleomargarine. Examination was set for January 10.

The case pending in police court of city of Bay City against Thomas D. Ryan, representing Bennett, Sloan & Co. of New York, charged with selling adulterated mustard was, on December 11, adjourned to January 8.

In the case pending in justice court of city of Battle Creek against Will H. Hamilton of Battle Creek, charged with selling colored oleomargarine, examination was held December 3 and case adjourned to January 3.

In the case pending in the circuit court for the county of Bay against Joseph Vallier of South Bay City, charged with selling oleomargarine for creamery butter, defendant on December 9 entered a plea of guilty and a fine of \$50 was imposed by the court.

In the case pending in the circuit court for the county of Bay against Joseph Vallier of South Bay City, charged with selling oleomargarine and not properly labeling same, defendant on December 9 entered a plea of guilty. Sentence was suspended by the court.

In the case pending in the circuit court for the county of Kalamazoo against John W. Phillips of Kalamazoo, charged with selling colored

oleomargarine, trial was held December 20 and 21 and defendant convicted. Stay of proceedings granted pending an appeal to the supreme court.

In the case pending in the circuit court for the county of Kalamazoo against Wm. G. Van Kersen of Kalamazoo, charged with selling colored oleomargarine, December 21, case was carried over to January term of court.

In the case pending in the circuit court for the county of Kalamazoo against Thomas J. Sloan of Kalamazoo, charged with selling colored oleomargarine, December 21, case was carried over to January term of court.

In the case pending in the circuit court for the county of Kalamazoo against Samuel Hoekstra of Kalamazoo, charged with selling colored oleomargarine, December 21, case was carried over to January term of court.

In the case pending in the circuit court for the county of Muskegon against John H. Spoelman of Muskegon, charged with selling colored oleomargarine, December 20, case was carried over to January term of court.

In the case pending in the circuit court for the county of Muskegon against Daniel Christie of Muskegon, charged with selling colored oleomargarine, December 20, case was carried over to January term of court.

In the circuit court for the county of Muskegon in case against M. Knooihuizen, charged with selling colored oleomargarine, December 20, a fine of \$50 was imposed by the court.

In recorder's court, city of Detroit, December 24, the cases against the following, charged with serving oleomargarine without displaying sign, were nolle prossed: Francis Merritt, Charles Heinecke, James A. Bastendorff, Fred Metzger, Allan P. Mason, Thomas Swan. Also against the following, charged with selling oysters containing boracic acid: Abraham Levy, Benjamin Neumann, Henry F. Monchamp, William B. Rademacher, Edgar A. Davis, Henry W. Pelton and Jacob Levison. Also the cases against the following, charged with selling milk containing formaldehyde: Joseph Kellar, Joseph Gerrard, Thomas McErlane, Michael Schlaff, William Warren, George Lawrence, Thomas Morley, Fred Luebs, Michael Thiesen, Charles Stevens, Charles Bossardet, Albert Dickinson, Fred D. Stricker, William E. Parmenter, Charles W. Biske, Sherman Browne, Louis C. Fritz, Charles Fick, George C. Parke, John Parke, Richard Bamford, Robert B. Brown, Robert W. Perry, Albert J. Joswiak, Charles Methler, Minor G. Betterly, Joseph Beindit, Albert C. LeFevre and Charles P. Redcap.

CHEMIST'S REPORT.

Department Laboratory,
Lansing, Mich., December 31, 1901.

HON. W. B. SNOW, *Dairy and Food Commissioner:*

SIR—During the month of December, 105 samples of food products have been examined, 24 being pure and 81 adulterated.

R. E. DOOLITTLE,
State Analyst.

SUMMARY.

Article.	Total.	Number pure.	Number adulterated.
Butter.....	10	3	7
Coloring.....	1	1	0
Cream of tartar.....	1	0	1
Extracts.....	4	0	4
Honey.....	2	2	0
Jelly and fruit butter.....	11	3	8
Lard.....	8	6	2
Mixtures or compounds.....	1	1	0
Molasses.....	1	0	1
Mustard.....	1	0	1
Oleomargarine.....	57	1	56
Peas.....	1	1	0
Pepper.....	2	1	1
Preserves.....	3	3	0
Syrup.....	1	1	0
Vinegar.....	1	1	0
Totals.....	105	24	81

It should not be inferred from an examination of the figures presented in the above table that they represent the actual condition of the food supply of Michigan with reference to adulteration. The experience of the Department's inspectors enables them to readily determine as to the purity of many of the different food products inspected by them. Only samples supposed to be adulterated or in which some new form of adulteration is liable to appear, are sent to the Department's laboratory for chemical analysis.

ANALYSIS OF SAMPLES.

BUTTER.

No. L-190. Sample of butter from Gaylord Co-operative Association, Gaylord.
Sold by Hammond, Standish & Co., Bay City, Mich.
Sample is process butter.

No. L-196. Sample of butter from W. A. Major, Petoskey.
Sold by J. J. Brown, St. Paul, Minn.
Sample is process butter.

No. L-200. Sample of butter from L. S. See, Charlevoix.
Sold by Illinois Creamery Co., Chicago, Ill.
Producer, Illinois Creamery Co., Chicago, Ill.
Sample is process butter.

No. R-98. Sample of butter from Saginaw Beef Co., Saginaw
Producer, Illinois Creamery Co., Elgin, Ill.
Sample is process butter.

No. R-101. Sample of creamery butter from Henry Curtis, Lansing.
Producer, Armour & Co., Chicago, Ill.
Sample is process butter.

No. R-108. Sample of creamery butter from Donsereaux & Co., Lansing.
Sold by Wm. A. Sweazey, North Lansing, Mich.
Sample is process butter.

No. R-112. Sample of creamery butter from H. H. Curtis, Lansing.
Sample is process butter.

CREAM OF TARTAR.

No. R-76. Sample of cream of tartar from Rothermal & Co., Essexville.
Borax.
Sample is powdered borax.

EXTRACTS.

No. K-277. Sample of "Seal Extract of Vanilla" from C. E. Voorhies, Cassopolis.
Sold by Reid, Murdock & Co., Chicago, Ill.
Producer, Kenwood Preserving Co., Chicago, Ill.

Vanillin	0.288 per cent.
Vanilla resin	Trace.
Organic acids, gums, etc.....	Present.
Color	Foreign.

Contains foreign coloring matter and probably added vanillin.

No. L-189. Sample of "DeBoe's Double Concentrated Extract of Vanilla" from Quick Bros., Gaylord.

Sold by **DeBoe, King & Co., Grand Rapids, Mich.**

Producer, **DeBoe, King & Co., Grand Rapids, Mich.**

Vanillin	0.056 per cent.
Coumarin	0.032 per cent.
Vanilla resin	Present.
Organic acids, gums, etc.....	Present.

Contains coumarin.

No. R-111. Sample of "Extract of Vanillin and Coumarin" from F. Z. Thompson, Lansing.

Producer, **C. Wooster, Lenawee Jct., Mich.**

Vanillin	0.774 per cent.
Coumarin	0.088 per cent.
Vanilla resin	None.
Organic acids, gums, etc.....	None.
Glycerine	Present.
Alcohol	Present.

An artificial preparation.

No. X-3. Sample of artificial extract of strawberry from Hodge & Opal, Grover.

Sold by **Thompson & Taylor Spice Co., Chicago, Ill.**

Producer, **Thompson & Taylor Spice Co., Chicago, Ill.**

Solids	0.05 per cent.
Compound ethers	—
Alcohol	—
Coloring matter	—

An artificial preparation.

JELLY AND FRUIT BUTTER.

No. K-276. Sample of strawberry jelly ("Telmo" brand) from C. E. Voorhies, Cassopolis.

Sold by **Franklin McVeagh & Co., Chicago, Ill.**

Producer, **Franklin McVeagh & Co., Chicago, Ill.**

Water	34.49 per cent.
Ash	0.40 per cent.
Reducing sugar	41.42 per cent.
Polarization before inversion.....	+29.4 degrees.
Polarization after inversion.....	—5.5 degrees.
Starch	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

No. K-280. Sample of red raspberry jelly ("Telmo" brand) from John M. Cook, Grand Haven.

Sold by **Franklin McVeagh & Co., Chicago, Ill.**

Producer, **Franklin McVeagh & Co., Chicago, Ill.**

Water	31.42 per cent.
Ash	0.40 per cent.
Reducing sugar	48.18 per cent.
Polarization before inversion.....	+39.0 degrees.
Polarization after inversion.....	—5.5 degrees.
Starch	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

No. K-283. Sample of apple jelly ("Telmo" brand) from D. A. Boelkins, Muskegon.
Sold by Franklin McVeagh & Co., Chicago, Ill.
Producer, Franklin McVeagh & Co., Chicago, Ill.

Water	38.83 per cent.
Ash	0.40 per cent.
Polarization before inversion.....	+34.8 degrees.
Polarization after inversion.....	-16.3 degrees.
Starch	Present.

Contains starch.

No. L-173. Sample of "Fruit Jelly, Imitation Blackberry," from Smith & Lacure, Rapid City.
Sold by Ball-Barnhart-Putnam Co., Grand Rapids, Mich.
Producer, Exley Watkins & Co., Wheeling, W. Va.

Water	42.20 per cent.
Ash	0.62 per cent.
Reducing sugar	31.76 per cent.
Polarization before inversion.....	+104.0 degrees.
Polarization after inversion.....	+103.4 degrees.
Starch	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

No. L-192. Sample of "Imitation Apple Butter" from Charles F. Kelley, Frederic.
Sold by Berdan & Co., Toledo, Ohio.
Producer, Star Syrup Mfg. Co., Wheeling, W. Va.

Water	60.80 per cent.
Ash	1.29 per cent.
Reducing sugar	10.08 per cent.
Polarization before inversion.....	+56.1 degrees.
Polarization after inversion.....	+53.1 degrees.
Color	Artificial.

Imitation fruit butter, artificially colored.

No. R-103. Sample of "Acme strawberry jelly" from the Pearl Grocery Co., North Lansing.
Sold by Northrop, Robertson & Carrier, Lansing, Mich.
Producer, The J. Weller Co., Cincinnati, O.

Water	37.36 per cent.
Ash	0.46 per cent.
Reducing sugar	29.06 per cent.
Polarization before inversion.....	+92.8 degrees.
Polarization after inversion.....	+82.4 degrees.
Starch	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

No. R-104. Sample of "Acme strawberry jelly" from the Pearl Grocery Co., North Lansing.
Sold by Northrop, Robertson & Carrier, Lansing, Mich.
Producer, The J. Weller Co., Cincinnati, O.

Water	36.98 per cent.
Ash	0.44 per cent.
Reducing sugar	30.08 per cent.
Polarization before inversion.....	+92.8 degrees.
Polarization after inversion.....	+84.2 degrees.
Starch	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

No. X-8. Sample of raspberry jelly ("Manhattan" brand) from P. Ruppe & Son, Calumet.

Sold by **Sprague, Warner & Co., Chicago, Ill.**

Producer, **Sprague, Warner & Co., Chicago, Ill.**

Water	28.98 per cent.
Ash	1.00 per cent.
Reducing sugar	32.42 per cent.
Polarization before inversion.....	+103.6 degrees.
Polarization after inversion.....	+103.3 degrees.
Starch	Present.
Color	Artificial.

Imitation fruit jelly, artificially colored.

LARD.

No. R-78. Sample of lard from Rothermal & Co., Essexville.

Producer, **Rothermal & Co., Essexville, Mich.**

Refractive index at 40°C.....	1.4593
Iodine absorbed	55.8 per cent.
Cotton seed oil.....	None.
Beef stearin	Present.

Lard compound.

No. R-79. Sample of lard compound from Rothermal & Co., Essexville.

Producer, **Rothermal & Co., Essexville, Mich.**

Refractive index at 40°C.....	1.4593
Iodine absorbed	56.1 per cent.
Cotton seed oil.....	None.
Beef stearin	Present.

Lard compound.

MOLASSES.

No. K-297. Sample of N. O. molasses ("Sweet Home" brand) from S. O. Bennett, Kalamazoo.

Sold by **Louisiana Syrup & Molasses Co., St. Louis, Mo.**

Water	20.69 per cent.
Ash	1.07 per cent.
Reducing sugar	30.69 per cent.
Polarization before inversion.....	+146.2 degrees.
Polarization after inversion.....	+135.1 degrees.

Contains glucose.

MUSTARD.

No. X-7. Sample of Gulden's Prepared Mustard from Ed. Ryan, Calumet.

Producer, **Charles Gulden, New York.**

Solids	20.00 per cent.
Ash	2.84 per cent.
Vinegar	—
Mustard	—
Spices and turmeric.....	—

Not properly labeled.

OLEOMARGARINE.

No. K-295. Sample of oleomargarine from F. W. Pugsley, Dowagiac.

Producer, **G. H. Hammond Co., Hammond, Ind.**

Oleomargarine artificially colored.

No. K-296. Sample of oleomargarine from F. W. Pugsley, Dowagiac.
Oleomargarine artificially colored.

No. L-184. Sample of oleomargarine from Harmon & Co., Frankfort.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-185. Sample of oleomargarine from Moses DeGowin, Cheboygan.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-186. Sample of oleomargarine from George Long, Vanderbilt.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-187. Sample of oleomargarine from H. & S. Cook, Wolverine.
Sold by **G. H. Hammond Co., Hammond, Ind.**
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. L-188. Sample of oleomargarine from Carr & Sobanski, Gaylord.
Oleomargarine artificially colored.

No. L-191. Sample of oleomargarine from Charles F. Kelley, Frederic.
Sold by **G. H. Hammond Co., Hammond, Ind.**
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. L-193. Sample of oleomargarine from Frank Johnson, Cadillac.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-194. Sample of oleomargarine from E. G. Snider & Co., Cadillac.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-195. Sample of oleomargarine from Charles Weiffenbach, Bellaire.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-197. Sample of oleomargarine from W. A. Major, Petoskey.
Sold by **W. J. Moxley, Chicago, Ill.**
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. L-198. Sample of oleomargarine from A. B. Thompson, Petoskey.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. L-199. Sample of oleomargarine from Adolph Fotchman, Petoskey.
Sold by **G. H. Hammond Co., Chicago, Ill.**
Producer, **G. H. Hammond Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. R-100. Sample of oleomargarine from E. A. Gilkey, Lansing.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. R-102. Sample of oleomargarine from Christopher & Loftus, Lansing.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. R-105. Sample of oleomargarine from Frank Preuss, North Lansing.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. S-92. Sample of oleomargarine from Alfred Morency, Detroit.
Producer, **Capitol City Dairy Co., Columbus, O.**
Oleomargarine artificially colored.

No. S-93. Sample of oleomargarine from Hurst Grocery Co., Detroit.
Producer, **C. H. Friedman Mfg. Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. S-94. Sample of oleomargarine from Michigan Table Supply Co., Detroit.
Producer, **Braun & Fitts, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-95. Sample of oleomargarine from Allan Bros., Detroit.
Producer, **G. H. Hammond Co., Hammond, Ind.**
Oleomargarine artificially colored.

No. S-96. Sample of oleomargarine from Kayser & Schneider, Detroit.
Producer, **Braun & Fitts, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-97. Sample of oleomargarine from Kayser & Schneider, Detroit.
Producer, **Swift & Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. S-98. Sample of oleomargarine from C. A. Freytag, Detroit.
Producer, **C. H. Friedman Mfg. Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. S-99. Sample of oleomargarine from C. A. Freytag, Detroit.
Producer, **C. H. Friedman Mfg. Co., Chicago, Ill.**
Oleomargarine artificially colored.

No. S-100. Sample of oleomargarine from Faltis Market Co., Detroit.
Producer, **W. J. Moxley, Chicago, Ill.**
Oleomargarine artificially colored.

No. S-101. Sample of oleomargarine from Peter Smith & Sons, Detroit.
Sold by **Michigan Produce Co., Detroit, Mich.**
Oleomargarine artificially colored.

No. S-102. Sample of oleomargarine from Peter Smith & Sons, Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. S-103. Sample of oleomargarine from Herman B. Cohen, Detroit.
Producer, G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. S-104. Sample of oleomargarine from H. Beese & Co., Detroit.
Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. S-105. Sample of oleomargarine from H. Beese & Co., Detroit.
Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. S-106. Sample of oleomargarine from King's Tea Store, Detroit.
Producer, Cincinnati Butterine Co., Cincinnati, O.

Oleomargarine artificially colored.

No. S-107. Sample of oleomargarine from King's Tea Store, Detroit.
Producer, G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. S-108. Sample of oleomargarine from King's Tea Store, Detroit.
Sold by Michigan Produce Co., Detroit, Mich.

Producer, Capitol City Dairy Co., Columbus, O.

Oleomargarine artificially colored.

No. S-109. Sample of oleomargarine from Nelson & Kay, Detroit.
Sold by Michigan Produce Co., Detroit, Mich.

Producer, G. H. Hammond Co., Hammond, Ind.

Oleomargarine artificially colored.

No. S-110. Sample of oleomargarine from Hunter Grocery Co., Detroit.
Sold by Michigan Produce Co., Detroit, Mich.

Producer, Capitol City Dairy Co., Columbus, Ohio.

Oleomargarine artificially colored.

No. S-111. Sample of oleomargarine from Detroit Table Supply Co., Detroit.
Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. S-112. Sample of oleomargarine from S. A. Bush, Detroit.
Producer, Swift & Co., Chicago, Ill.

Oleomargarine artificially colored.

No. S-113. Sample of oleomargarine from S. A. Bush, Detroit.
Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. S-114. Sample of oleomargarine from C. W. Coon, Detroit.
Producer, W. J. Moxley, Chicago, Ill.

Oleomargarine artificially colored.

No. S-115. Sample of oleomargarine from C. W. Coon, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-116. Sample of oleomargarine from McRae Bros., Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. S-118. Sample of oleomargarine from Allen Bros., Detroit.
Producer, G. H. Hammond Co., Hammond, Ind.
Oleomargarine artificially colored.

No. S-119. Sample of oleomargarine from E. A. Veale, Detroit.
Producer, C. H. Friedman Mfg. Co., Chicago, Ill.
Oleomargarine artificially colored.

No. S-120. Sample of oleomargarine from E. W. Villerot, Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, Capitol City Dairy Co., Columbus, O.
Oleomargarine artificially colored.

No. S-121. Sample of oleomargarine from Robert Downie & Sons, Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-122. Sample of oleomargarine from Robert Downie & Sons, Detroit.
Producer, Ohio Butterine Co., Cincinnati, Ohio.
Oleomargarine artificially colored.

No. S-123. Sample of oleomargarine from Herman Merker & Sons, Detroit.
Producer, Swift & Co., Chicago, Ill.
Oleomargarine artificially colored.

No. S-124. Sample of oleomargarine from Max C. Koch, Detroit.
Producer, Braun & Fitts, Chicago, Ill.
Oleomargarine artificially colored.

No. S-125. Sample of oleomargarine from F. W. Swartz, Detroit.
Producer, C. H. Friedman Mfg. Co., Chicago, Ill.
Oleomargarine artificially colored.

No. S-126. Sample of oleomargarine from Fred Apel & Bro., Detroit.
Producer, W. J. Moxley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-129. Sample of oleomargarine from Christie Bros., Detroit.
Producer, Ohio Butterine Co., Cincinnati, O.
Oleomargarine artificially colored.

No. S-131. Sample of oleomargarine from Hammond Standish & Co., Detroit.
Producer, W. J. Morley, Chicago, Ill.
Oleomargarine artificially colored.

No. S-132. Sample of oleomargarine from Fort Wayne Table Supply Co., Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, Capitol City Dairy Co., Columbus, O.
Oleomargarine artificially colored.

No. S-133. Sample of oleomargarine from Banner Tea Store, Detroit.
Sold by Michigan Produce Co., Detroit, Mich.
Producer, Capitol City Dairy Co., Columbus, O.
 Oleomargarine artificially colored.

No. S-134. Sample of oleomargarine from Ernest Veale, Detroit.
Producer, C. H. Friedman Mfg. Co., Chicago, Ill.
 Oleomargarine artificially colored.

PEPPER.

No. K-278. Sample of black pepper ("Silver Seal" brand) from G. W. Moore, Dowagiac.

Sold by Walsh Lange & Co., Chicago, Ill.

Total ash	12.87 per cent.
Ash insoluble in hydrochloric acid (sand)	4.75 per cent.
Starch	14.50 per cent.
Volatile ether extract	2.10 per cent.
Non-volatile ether extract	5.12 per cent.
Crude fibre	16.46 per cent.

Consists mostly of ground pepper shells.

INSPECTIONS.

The following places were visited by the Department's inspection force during the month of December:

Ann Arbor, Baraga, Bay City, Bellaire, Big Rapids, Boyne City, Cadillac, Calumet, Charlevoix, Cheboygan, Detroit, Dowagiac, Frederic, Gaylord, Grand Haven, Grand Rapids, Grayling, Greenville, Grover, Hancock, Harbor Springs, Houghton, Kalamazoo, L'Anse, Lansing, Menominee, Merrill, Muskegon, North Lansing, Oshtemo, Petoskey, Saginaw, St. Johns, Tamarack, Traverse City, Vanderbilt, Waldron, West Bay City, Williamsburg, Wolverine.

DAIRY INSPECTIONS.

Report of dairies inspected during the month of December:

At Bay City:

A. Dennike—Number of cows, 40; condition, good; feed, hay, corn-fodder, bran and corn-meal; stables, good, clean; yard, dry, clean; water, well.

Wm. Cameron—Number of cows, 22; condition, good; feed, corn-stalks, corn-meal, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

Wagner & Son—Number of cows, 16; condition, good; feed, corn-stalks, corn, bran, middlings; stables, fair, fairly clean; yard, dry, fairly clean; water, well.

Chester Zane—Number of cows, 15; condition, good; feed, hay, corn-stalks, bran, corn-meal; stables, fair, fairly clean; yard, dry, fairly clean; water, well.

John Meyers—Number of cows, 16; condition, fair; feed, corn-stalks, corn-meal, beet-pulp; stables, fair, fairly clean; yard, dry, fairly clean; water, well.

B. Vos—Number of cows, 15; condition, fair; feed, corn-stalks, corn-meal, bran; stables, fair, fairly clean; yard, dry, clean; water, well.

F. W. Dunham—Number of cows, 50; condition, fair, fairly clean; feed, hay, corn-stalks, corn-meal, beet-pulp; stables, fair; yard, dry, fairly clean; water, well.

C. P. Smith—Number of cows, 15; condition, good, clean; feed, corn-stalks, corn-meal, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

C. Guinness—Number of cows, 20; condition, good, clean; feed, hay, bran, beet-pulp; stables, fair, fairly clean; yard, dry, clean; water, well.

P. Donnessey—Number of cows, 21; condition, good; feed, corn-fodder, corn-meal, bran; stables, good, clean; yard, dry, clean; water, well.

Mr. Culver—Number of cows, 15; condition, good; feed, hay, corn-stalks, corn-meal, buckwheat, bran, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

At Big Rapids:

A. Card—Number of cows, 5; condition, poor; feed, millet, corn-stalks, middlings; stables, fair, fairly clean; yard, dry, clean; water, well.

Fred Cox—Number of cows, 14; condition, good; feed, hay, stover, bran; stables, good, clean; yard, dry, clean; water, well.

J. Greenfield—Number of cows, 5; condition, good; feed, hay, corn-fodder, bran; stables, good, clean; yard, dry, clean; water, well.

A. Winter—Number of cows, 23; condition, good, clean; feed, hay, corn-fodder, beets, bran, middlings; stables, good, clean; yard, dry, clean; water, well.

H. Tankin—Number of cows, 16; condition, good, clean; feed, hay, stover, bran, middlings; stables, fair, fairly clean; yard, dry, clean; water, well.

G. T. Lloyd—Number of cows, 9; condition, good, clean; feed, hay, corn-fodder, bran, corn-meal; stables, good, clean; yard, dry, clean; water, spring.

A. Le Clark—Number of cows, 12; condition, good; feed, corn-fodder, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well, spring.

At Grand Haven:

Aart Kooiman—Number of cows, 14; condition, good, clean; feed, hay, stover, bran, middlings; stables, good, clean; yard, dry, clean; water, city.

Chris Lock—Number of cows, 7; condition, good, clean; feed, hay, stover, corn-meal, bran; stables, good, clean; yard, dry, clean; water, well.

G. W. Miller—Number of cows, 7; condition, good, clean; feed, hay, corn-stalks, bran, corn-meal; stables, good, large, clean; yard, dry, clean; water, well.

Samuel Bushman—Number of cows, 8; condition, good, clean; feed, hay, bran, gluten, oil-meal.

J. Boiten—Number of cows, 7; condition, good, clean; feed, hay, gluten, corn-meal; stables, good, clean; yard, dry, clean; water, city.

A. VerBerkmoes—Number of cows, 11; condition, good, clean; feed, hay, bran, gluten, oil-meal; stables, good, clean; yard, dry, clean; water, city.

Charles Johnson—Number of cows, 9; condition, good; feed, hay, bran, corn-meal, gluten, oil-meal; stables, poor, not clean, poorly ventilated; yard, full of manure; water, city.

P. Anderson—Number of cows, 6; condition, good; feed, hay, corn-meal, bran; stables, small, clean; yard, dry, clean; water, city.

Gus Johnson—Number of cows, 7; condition, good, clean; feed, hay, bran, middlings; stables, fair, fairly clean; yard, dry, clean; water, city.

Mrs. W. Van Bemmelen—Number of cows, 7; condition, fair; feed, hay, corn-meal, bran; stables, poor, dirty, ventilation, poor; yard, dry, fairly clean; water, city.

Fred Worben—Number of cows, 8; condition, good, fairly clean; feed, hay, corn-fodder, bran, middlings, rye-meal; stables, good, fairly clean; yard, fair; water, spring.

Henry Vincent—Number of cows, 5; condition, fair; feed, hay, bran, mangles, gluten; stables, poor, dirty, fair ventilation; yard, dry; water, city.

A. DeKyke—Number of cows, 6; condition, good; feed, hay, bran, gluten; stables, fair, dusty; yard, wet, dirty; water, city.

At Grand Rapids:

Ed Wyker—Number of cows, 19; condition, good, clean; feed, hay, corn-fodder, gluten, bran, middlings; stables, fair; yard, fair; ventilation, good; water, well, spring.

Geo. Hines—Number of cows, 16; condition, good; feed, corn-fodder, bran, corn-meal; stables, good, clean; yard, fair; water, spring.

At Greenville:

T. D. Bane—Number of cows, 20; condition, good; feed, corn-stalks, bran, middlings, corn-meal; stables, good, clean; yard, dry, clean; water, well.

J. B. Wright—Number of cows, 5; condition, good; feed, corn-stalks, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

J. W. O'Neil—Number of cows, 7; condition, good; feed, corn-stalks, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

R. T. Abbey—Number of cows, 38; condition, good, clean; feed, ensilage, corn-fodder, bran, corn, rye-meal; stables, good, clean; yard, dry, clean; water, well.

G. B. Maynard—Number of cows, 6; condition, good; feed, ensilage, corn-fodder, bran; stables, good, clean; yard, dry, clean; water, well.

At Muskegon:

John Johnson—Number of cows, 7; condition, good, clean; feed, hay, stover, bran, corn-meal; stables, good, poor ventilation; yard, dry, clean; water, well.

Fred Johnson—Number of cows, 9; condition, good; feed, hay, stover, bran, middlings, corn-meal; stables, good, clean; yard, dry, clean; water, well.

Charles Peterson—Number of cows, 29; condition, good, clean; feed, hay, stover, bran, corn-meal; stables, good, clean, good ventilation; yard, dry, clean; water, well.

Charles Johnson—Number of cows, 16; condition, good, clean; feed, ensilage, stover, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

Adolph Bard—Number of cows, 13; condition, good; feed, hay, corn-stalks, bran, corn-meal; stables, fair, fairly clean; yard, dry, clean; water, well.

J. W. Kent—Condition of cows, good; feed, hay, stover, bran, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

N. Sedine—Number of cows, 15; condition, good, clean; feed! hay, corn-meal, gluten, bran, oats; stables, good, clean; yard, dry, clean.

Hide & Son—Number of cows, 20; condition, good; feed, hay, stover, malt, bran; stables, good, clean; yard, dry, clean, drainage good; water, well.

Hoffman & Sikkinga—Number of cows, 18; condition, good, clean; feed, hay, corn-stalks, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

H. Burke—Number of cows, 16; condition, good; feed, hay, corn-stalks, bran, middlings; stables, good, clean; yard, dry, clean; water, well.

At Oshtemo:

L. A. Jones—Number of cows, 8; condition, fair; feed, shredded fodder, ground corn, oats; stables, fair, clean; yard, dry, clean; water, well.

C. Hope—Number of cows, 11; condition, good; feed, hay, corn-stalks, corn; stables, good, clean; yard, dry, clean; water, well.

C. S. Dunham—Number of cows, 7; condition, good; feed, shredded fodder, ground corn, oats; stables, good, clean; yard, dry, clean; water, well.

T. LeRea—Number of cows, 7; condition, good; feed, hay, corn-stalks, millet, ground corn, rye; stables, good, clean; yard, dry, clean; water, well.

L. Slack—Number of cows, 5; condition, fair; feed, corn-stalks, bean-pods, ground corn, oats; stables, good, fair ventilation; yard, dry, clean; water, well.

T. L. Howe—Number of cows, 6; condition, fairly good; feed, shredded fodder, ground corn, oats; stables, fair, fairly clean, good ventilation; yard, dry, clean; water, well.

At Saginaw:

John Dune—Number of cows, 7; condition, good; feed, hay, corn-fodder, corn-meal; stables, good, fairly clean; yard, dry, clean; water, well.

T. O'Hara—Number of cows, 18; condition, good; feed, corn-stalks, corn-meal, beet-pulp; stables, good, clean; yard, fairly dry and clean; water, well.

Norman Miller—Number of cows, 23; condition, good, clean; feed, hay, corn-fodder, bran, corn-meal; stables, good, clean; ventilation, good; yard, dry, clean; water, well.

J. Blank—Number of cows, 10; condition, good, clean; feed, hay, corn-stalks, bran; stables, good, clean; yard, dry, fairly clean; water, well.

J. Strauble—Number of cows, 8; condition, good, clean; feed, hay, corn-fodder, bran, corn-meal; stables, good, clean, ventilation fair; yard, dry, clean; water, well.

J. Baldof—Number of cows, 5; condition, good; feed, hay, bran, middlings, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

John Sidle—Number of cows, 5; condition, good; feed, hay, corn-stalks, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

J. P. Sidle—Number of cows, 8; condition, good; feed, hay, bran, corn-meal, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

Will Sidle—Number of cows, 5; condition, good; feed, hay, corn-stalks, bran; stables, good, clean; yard, dry, clean; water, well.

P. Neurminger—Number of cows, 10; condition, good, clean; feed, hay, corn-stalks, bran, corn-meal, beet-pulp; stables, neat, clean; yard, dry, clean; water, well.

Ezra Fry—Number of cows, 30; condition, good, clean; feed, hay, corn-fodder, bran, middlings; stables, neat, clean; ventilation, good; yard, dry, clean; water, well; uses aerator and separator; milk-room neat and clean.

T. Phoenix—Number of cows, 17; condition, good, clean; feed, hay, corn-stalks, ground corn, oats, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

George Zoran—Number of cows, 7; condition, good, clean; feed, hay, corn-meal, bran, beet-pulp; stables, good, clean; ventilation, good; yard, dry, clean; water, well.

A. Zauer—Number of cows, 8; condition, good, clean; feed, hay, corn-stalks, bran, corn-meal; stables, neat, clean, ventilation good; yard, dry, clean; water, well.

Chapple Farm Dairy—Number of cows, 15; condition, good; feed, hay, corn-fodder, bran, middlings; stables, good, clean; yard, dry, clean; water, well.

H. Otto—Number of cows, 6; condition, good; feed, hay, corn-stalks, corn-meal, beet-pulp; stables, good, clean; yard, dry, clean; water, well.

Martin Manion—Number of cows, 26; condition, good, clean; feed, hay, corn-stalks, corn-meal; stables, good, clean; yard, dry, clean; water, well.

A. G. Dawe—Number of cows, 12; condition, good, clean; feed, hay, corn-fodder, corn-meal, beet-pulp; stables, good, fairly clean; yard, dry, clean; water, well.

L. O. Clark—Number of cows, 17; condition, good, clean; feed, hay, corn-fodder, bran, middlings; stables, good, clean; yard, dry, clean; water, well.

Wm. Coddington—Number of cows, 20; condition, good; feed, hay, corn-fodder, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

A. Edwards—Number of cows, 10; condition, good; feed, corn-fodder, millet, corn-meal, bran; stables, good, clean; yard, dry, fairly clean; water, well.

F. Hollihan—Number of cows, 10; condition, good, clean; feed, hay,

corn-fodder, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

L. Stelzrite—Number of cows, 8; condition, good; feed, hay, corn-stalks, millet, corn-meal; stables, poor, dirty, ventilation poor; yard, fair, fairly clean; water, well.

C. Boldebeck—Number of cows, 45; condition, good, fairly clean; feed, hay, corn-stalks, beet-pulp, corn-meal, bran, middlings; stables, close, dirty; yard, full of manure; water, well.

Shernvelt Dairy—Number of cows, 12; condition, good; feed, corn-fodder, millet, corn-meal; stables, good, clean; yard, dry, clean; water, well.

Peter Bender—Number of cows, 21; condition, good, fairly clean; feed, hay, stover, corn-meal, bran; stables, good, clean; yard, dry, clean; water, well.

H. Prueter—Condition of cows, good; feed, hay, corn-stalks, bran, middlings; stables, good, clean; yard, dry, clean; water, well.

J. S. Zuckeomancher—Number of cows, 29; condition, good, clean; feed, hay, stover, millet, corn-meal, middlings; stables, good, clean; yard, dry, clean; water, well.

J. W. Dietrich—Number of cows, 21; condition, good, clean; feed, hay, corn-fodder, millet, corn-meal, bran, middlings; stables, good, fairly clean; yard, dry, clean; water, well.

J. J. Dietrich—Number of cows, 17; condition, good; feed, corn-fodder, millet, bran, corn-meal; stables, fair, fairly clean, poor ventilation; yard, fair; water, well.

John Liedlein—Number of cows, 50; condition, extra good, clean; feed, hay, shredded corn-stalks, ground corn, oats, wheat; stables, clean, good; ventilation good; yard, dry, clean; water, well.

J. C. Voltz—Number of cows, 12; condition, good, fairly clean; feed, hay, corn-fodder, corn-meal, beet-pulp; stables, fair, fairly clean; yard, dry, clean; water, well.

Robert Weideveniller—Number of cows, 11; condition, fair, dirty; feed, hay, corn-stalks, bran, middlings; stables, fair, fairly clean, ventilation fair; yard, dry, clean; water, well.

Wm. McCallem—Number of cows, 30; condition, good, clean; feed, hay, corn-fodder, bran, corn-meal; stables, good, clean; yard, dry, clean; water, well.

N. Blanchard—Number of cows, 10; condition, good, fairly clean;

feed, corn-stalks, beet-pulp, brewer's malt; stables, good, fairly clean; yard, dry, clean; water, well.

J. G. Winkler—Number of cows, 40; condition, good, clean; feed, corn-fodder, mangels, corn-meal; stables, good, clean; yard, dry, clean; water, well.

At St. Johns:

C. Atkins—Number of cows, 20; condition, good; feed, hay, corn-stalks, ground corn, oats, mangels; stables, good, clean; yard, dry, clean; water, well.

John Kelley—Number of cows, 7; condition, good; feed, corn-stalks, corn-meal, bran, mangels; stables, good, clean; yard, dry, clean; water, well.

J. B. Davis—Number of cows, 26; condition, good; feed, hay, ensilage, bran; stables, good, clean; yard, dry, clean; water, well.

Geo. Ferry—Number of cows, 18; condition, good; feed, hay, corn-stalks, ground corn, oats, peas; stables, fair, fairly clean; yard, dry, clean; water well, creek.

E. Blizzard—Number of cows, 24; condition, good, clean; feed, hay, corn-stalks, corn-meal, beet-pulp; stables, good, clean; yard, dry, clean; water, well; uses separator; milk-room, neat, clean.

FINANCIAL STATEMENT.

From June 30, 1901, to January 1, 1902.

General appropriation and chemical fund July 1, 1901..... \$25,000 00

DISBURSEMENTS.

Wilbur B. Snow, Commissioner, salary.....	\$1,000 00	
Wilbur B. Snow, Commissioner, expenses.....	363 45	
Geo. H. Bussey, Deputy Commissioner, salary.....	750 00	
Geo. H. Bussey, Deputy Commissioner, expenses.....	483 41	
Roscoe E. Doolittle, Analyst, salary.....	750 00	
Roscoe E. Doolittle, Analyst, expenses.....	222 77	
O. J. Reyberg, Assistant Analyst, salary.....	84 20	
L. H. Van Wormer, Assistant Analyst, salary.....	62 48	
John R. Bennett, Inspector, salary.....	474 00	
John R. Bennett, Inspector, expenses.....	287 11	
Frank H. Gregory, Inspector, salary.....	474 00	
Frank H. Gregory, Inspector, expenses.....	234 37	
Gilman M. Dame, Inspector, salary.....	474 00	
Gilman M. Dame, Inspector, expenses.....	543 04	
John McMahon, Inspector, salary.....	474 00	
John McMahon, Inspector, expenses.....	180 22	
James R. McCall, Inspector, salary.....	474 00	
James R. McCall, Inspector, expenses.....	518 66	
Rudolph J. Haas, Inspector, salary.....	372 00	
Rudolph J. Haas, Inspector, expenses.....	103 90	
Elizabeth Hare, Clerk, salary.....	150 00	
Etta Kellogg, Clerk, salary.....	180 00	
Zella De Wing, Clerk, salary.....	90 00	
Lettie J. Brown, Clerk, salary.....	120 00	
Ida M. Harris, Clerk, salary.....	180 00	
Postage	739 00	
Telegraph and telephone.....	55 40	
Express and freight.....	28 37	
General expense.....	35 49	
Chemicals	232 03	
Balance unexpended January 1, 1902.....	14,864 10	
	<u>\$25,000 00</u>	<u>\$25,000 00</u>
Apiary fund July 1, 1901.....		\$500 00

DISBURSEMENTS.

Jno. M. Ranken, Inspector, salary.....	\$276 00	
Jno. M. Ranken, Inspector, expenses.....	160 27	
Balance unexpended January 1, 1901.....	63 73	
	<u>\$500 00</u>	<u>\$500 00</u>

ABSTRACT OF LAWS.

The trade is warned that the following is but a brief synopsis of the Michigan Food Laws. The Digest and Rulings cover but a portion of the food and drink products affected by the statutes. Every article of food and drink comes within the law's regulations, and dealers are advised to apply to the Department for a copy of the complete laws and inform themselves fully.

IN GENERAL.

No person shall within this State manufacture for sale, have in his possession with intent to sell, offer or expose for sale, or sell, any article of food or drink which is adulterated.

The taking of orders, or the making of agreements or contracts, by any person, firm, or corporation, or by any agent or representative thereof, for the future delivery of any of the articles, products, goods, wares or merchandise embraced within the provisions of the act is deemed a sale.

Under the statute a dealer is liable for selling an adulterated article, although he may have no knowledge that the same is adulterated.

A guarantee of purity received from the manufacturer or jobber does not relieve a person handling adulterated goods from liability.

AN ARTICLE

shall be deemed to be adulterated:

1. If any substance or substances have been mixed with it, so as to lower or depreciate or injuriously affect its quality, strength or purity;
2. If any inferior or cheaper substance or substances have been substituted wholly or in part for it;
3. If any valuable or necessary constituent or ingredient has been wholly or in part abstracted from it;
4. If it is in imitation of, or is sold under the name of another article;
5. If it consist wholly or in part of a diseased, decomposed, putrid, infected, tainted or rotten animal or vegetable substance or article, whether manufactured or not, or, in the case of milk, if it is the product of a diseased animal;

6. If it is colored, coated, polished or powdered whereby damage or inferiority is concealed, or if by any means it is made to appear better or of greater value than it really is, except in the case of pure butter, which may be colored;

7. If it contains any added substance or ingredient which is poisonous or injurious to health.

MIXTURES OR COMPOUNDS

recognized as ordinary articles or ingredients of articles of food may be sold under the following restrictions:

1. All packages containing same must bear the name and address of the manufacturer or compounder thereof;

2. They must contain nothing injurious to health;

3. They must not be sold in imitation of, or under the name of another article;

4. They must be distinctly labeled under their own distinctive name, and in a manner so as to plainly and correctly show they are a mixture or compound;

5. A mixture or compound cannot be sold under the name of any ingredient contained therein, even though the words mixture or compound be used in connection therewith. It must be sold under an original or coin name.

Exceptions under the law are:

Buckwheat flour, coffee and lard, which may be mixed with other substances under certain restrictions and sold as buckwheat flour compound, coffee compound and lard compound.

DIGEST AND RULINGS.

BAKING POWDERS.—All packages containing same must bear name and address of the manufacturer. Can be sold without formula, but if labeled cream of tartar, phosphate powder, etc., must be true to name.

BUCKWHEAT FLOUR.—If labeled "Buckwheat Flour" must be true to name. Can be mixed with substances not injurious to health if labeled "Buckwheat Flour Compound," "Buckwheat Flour Substitute," or "Adulterated Buckwheat Flour," in letters not less than one inch in length, followed by the name and address of the maker. Buckwheat Flour containing no other ingredients but for leavening and seasoning purposes may be sold if labeled, "Selfrising Buckwheat Flour."

BUTTER.—Must be made exclusively of milk or cream. May be colored with coloring matter not injurious to health. Butter factories where milk or cream is purchased of or contributed by three or more persons must register with the Department on or before April 1 of each year.

Process butter must be labeled as such. See ruling under head of Process Butter.

CANDY.—Must not contain terra alba, barytes, talc, or other earthy or mineral substances, or any poisonous colors or flavors, or ingredients detrimental to health.

CATSUP.—All packages containing same must bear the name and address of the manufacturer. Must contain no ingredients injurious to health.

CHEESE.—Must be made exclusively of milk or cream. Only cheese made from milk from which no cream has been taken can be sold as or branded, "Full Cream

Cheese, or "Full Milk Cheese." Cheese factories where milk or cheese is purchased of or contributed by three or more persons must register with the Department, on or before April 1, of each year. Authorized brands bearing the words "Michigan Full Cream Cheese," may be obtained from the Department upon payment of fee of one dollar.

COFFEE.—If sold as such must be true to name. May be mixed with chicory, or other substances not injurious to health, if marked or labeled "Coffee Compound," together with the name and address of the manufacturer or compounder, and have no other label of whatever name or designation. This applies to all packages containing such coffee, whether put up for immediate delivery or for stock purposes.

COFFEE SUBSTITUTE.—Mixtures of cereals or other articles sold as substitute for coffee must be sold as a mixture or compound under an original or coin name and not under the name of any ingredient contained therein. All packages containing the same must bear the name and address of the manufacturer or compounder thereof.

CHOCOLATES AND COCOAS.—If containing no other substances than cocoa mass, sugar and flavoring, will not be classed as a compound or mixture.

CANNED GOODS.—Must bear name and address of the packer. If dried before canning must be labeled "Soaked or Bleached Goods," in letters not less than two line pica in size. The sale of peas or other vegetables greened with copper is prohibited.

CREAM OF TARTAR.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though it be labeled mixture or compound.

EXTRACTS, FLAVORINGS.—Bottles or packages containing extracts must bear the name and address of the manufacturer. Vanilla flavoring must be without artificial color: This includes all extracts of vanilla or tonka, whether mixed or simple.

Extracts of Vanilla and Tonka may be mixed and sold as "Extract of Vanilla and Tonka," or simply "Extract of Tonka." The labeling of an extract vanilla and tonka as "Extract of Vanilla" or "Compound Extract of Vanilla," with the per cent of each ingredient contained therein, is not proper, and will be considered an adulteration. It must be understood that when an extract of vanilla and tonka is labeled with both names, the type used is to be similar in style and size, and that one name is not to be given greater prominence than another. Extracts that are not made from the fruit, berry or bean, and are made artificially, such as raspberry, strawberry, pineapple, banana, etc., are prohibited by law.

FARINACEOUS GOODS.—Must be true to name. Barley, Hominy, Cracked or Rolled Wheat or Oats, Tapioca, and like articles, must be pure and unadulterated. If mixed or compounded with other articles, must be sold as a mixture or compound, under an original or coin name, and not under the name of any ingredient contained therein. All packages containing mixtures or compounds of this kind must bear the name and address of the manufacturer or compounder thereof.

HONEY.—Must be pure. Cannot be mixed with glucose or other substances and sold as "Honey Compound."

JELLY.—Imitation fruit jellies, butter or other similar compounds made or composed in whole or in part of glucose, dextrine, starch or other substances, can be sold if uncolored, are not injurious, and are distinctly and durably labeled "Imitation Fruit Jelly or Butter," with the name and location of manufacturer, and have no other label of whatever name.

LARD.—Imitation lard in manufacturers' packages must be distinctly branded or labeled either "Lard Compound," "Adulterated Lard," or "Lard Substitute," in letters not less than one inch in length, and shall be followed with the name of the maker and factory, and the location of such factory. If kept or sold in other than manufacturers' package, the name of maker or factory is not necessary, but each and

every package must be distinctly labeled "Lard Compound," "Adulterated Lard," or "Lard Substitute," printed in letters not less than one-half inch in length. This also applies to smaller quantities when put up for immediate delivery.

LIQUORS.—Spirituuous, fermented or malt liquors must not contain drugs or poisons or ingredients deleterious or unhealthy. Persons engaged in manufacturing, rectifying or preparing same in any way must brand on each barrel, cask or vessel containing the same, the name of the person, firm or corporation manufacturing, rectifying or preparing the same, and also with the words, "Pure and Without Drugs or Poison." No person shall sell at wholesale or retail any such liquors from any barrel, cask or vessel, unless the same shall have been branded and marked as aforesaid.

MAPLE SUGAR AND MAPLE SYRUP.—Must be pure and true to name. Cannot be mixed with other sugar or syrup and sold as "Maple Sugar Compound" or "Maple Syrup Compound."

MILK.—Must contain not less than 3 per cent of fat and $12\frac{1}{2}$ per cent solids. Milk from which cream has been removed must be labeled and sold as "Skim Milk." The sale of milk which is impure, unwholesome or adulterated, or from cows which are diseased, or fed upon the refuse of a distillery or brewery, or upon any substance deleterious to the quality of the milk, such as garbage, swill, or any substance in a state of fermentation or putrefaction, or from cows kept in connection with a family in which there is infectious disease, is prohibited. The addition of coloring matter or preservatives in milk is prohibited.

MOLASSES.—Must be branded with its true and appropriate name and must be true to same. (See Syrup.)

OLEOMARGARINE.—All compounds of animal or vegetable fats made in imitation or semblance of butter, or calculated to be used as or for butter, must be known and designed as "Oleomargarine."

The use of the name of any breed of dairy cattle, or the use of any words or symbols commonly used in the sale of butter, is forbidden in the sale, exposure for sale or advertisement of any oleomargarine.

Proprietors of any place where oleomargarine is sold or furnished must have conspicuously placed on the walls of the room where the same is sold or furnished, a white placard containing the words, "Oleomargarine Sold or Used Here," printed in black ink in plain Roman letters not less than three inches in length or less than two inches in width. This applies to hotel, restaurant and boarding house keepers where oleomargarine is served.

All packages containing oleomargarine must be branded as such in ordinary bold-faced capital letters not less than five line pica in size, together with the name and address of the manufacturer and the name of each and every article or ingredient used or entering into its composition in ordinary bold-faced letters not less than pica in size.

Dealers must notify purchasers at the time of selling oleomargarine by verbal notice that the same is a substitute for butter, and must also deliver to the purchaser a separate and distinct label on which shall be printed in black ink in ordinary bold-faced capital letters, not less than five line pica in size, the word "Oleomargarine," together with the name and address of the manufacturer and the name of each article used and entering into its composition in ordinary bold-faced letters not less than pica in size. This label must be delivered in addition to the label contained on the package in which said oleomargarine is wrapped for sale.

Oleomargarine must not contain artificial coloring matter.

PANCAKE FLOURS.—If containing more than one article must be sold as a mixture or compound under an original or coin name, and not under the name of any ingredient contained therein. Packages containing same must bear the name and address of the manufacturer or compounder.

PREPARED MUSTARD.—Pure mustard mixed with vinegar and spices may be sold if labeled "Prepared Mustard," and bear the name and address of the manufacturer, but if any substance or substances are added to cheapen it, such as flour, etc.,

it will be deemed adulterated. The label proper must contain the words "Prepared Mustard," and have no other designation than herein required. Printed matter descriptive of the goods will be allowed upon the label below the words "Prepared Mustard," or below the name and address of the manufacturer, but no printed matter of any description will be allowed above the name "Prepared Mustard."

PROCESS BUTTER.—All packages containing same sold, offered or exposed for sale, or in possession with intent to sell, must be labeled "Process Butter."

Packages put up for immediate delivery must be covered by wrappers on which must be printed in conspicuous letters the words "Process Butter."

If packed in tubs or other receptacles the words "Process Butter" must be printed in one-inch letters on the top and two sides of the same.

If uncovered and not contained in a tub or receptacle a placard containing the word "Process Butter" must be attached to the mass, in a manner making them plain and prominent.

SYRUPS.—Each barrel, cask, can, keg or pail containing molasses, syrup or glucose, shall be distinctly branded or labeled with the true and appropriate name of such article. Packages containing molasses or syrup mixed with glucose shall be branded or labeled "Glucose Mixture," and the per cent in which glucose enters into its composition. All brands or labels shall be in letters of not less than one-half inch in length and shall be in a conspicuous place. Glucose and glucose mixtures shall have no other designation than herein required. Glucose mixtures must bear the name and address of the manufacturer.

SPICES.—Must be pure and true to name. Cannot be mixed or compounded with any other article and sold under the name of any ingredient thereof, even though the package be labeled mixture or compound.

All black pepper shall contain not more than six and one-half per cent ash or mineral matter; and shall contain not less than twenty-five per cent starch as determined by the diastase method; and shall contain not less than six-tenths of one per cent nor more than one and three-fourths per cent of volatile ether extract; and shall contain not more than ten per cent nor less than six and one-half per cent of non-volatile ether extract; and shall contain not more than sixteen per cent of crude fibre.

VINEGARS.—All packages containing vinegar must be branded with the name and address of the manufacturer. All vinegars must contain not less than four per cent by weight of absolute acetic acid and must not contain any preparation of lead, copper, sulphuric acid, or ingredients injurious to health. All vinegars made by fermentation and oxidation must be branded "fermented vinegar," with the name of the fruit or substance from which the same is made, must be free from foreign substance and must contain not less than one and three-fourths per cent by weight of solids contained in the fruit or grain from which said vinegar is fermented, and not less than two and a half tenths of one per cent ash or mineral matter, the same being the product of the material from which said vinegar is manufactured. All vinegars made wholly or in part from d'stilled liquor must be branded "distilled vinegar," and must be free from artificial coloring matter. Only vinegar made from pure apple juice, free from foreign substances, drugs or acids, and containing not less than one and three-fourths per cent by weight of cider vinegar solids, can be sold as apple, orchard or cider vinegar.

COMPLAINTS.

Complaints or requests for investigation will be held in strict confidence and will receive prompt attention when addressed direct to the Department or through an inspector.

